



BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM
WASHINGTON, DC 20551

Supervisory Stress Test Model Documentation

Aggregation Models

Fall 2026

This document summarizes the aggregation models that the Board of Governors of the Federal Reserve System (Board) intends to use in the 2027 Supervisory Stress Test. The following sections provide an overview of the Balances, Retained Earnings, Provisions, and Capital Models. Each section includes a summary of the model, model components, and alternatives considered, along with other model-specific details. Documentation on the other models that the Board intends to use in the 2027 Supervisory Stress Test is available at the following link: <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2027.htm>

Table of Contents

A. Balances Model.....	4
i. Statement of Purpose	4
ii. Model Specification	5
iii. Alternatives Considered.....	8
B. Provisions Model.....	9
i. Statement of Purpose	9
ii. Summary of the Provisions Model	9
iii. Components of the Provisions Model.....	12
iv. Adjustments for Revenue and Loss Sharing Agreements.....	17
v. Model Assumptions	20
vi. Alternatives to the Provisions Model.....	24
C. Retained Earnings Model.....	25
i. Statement of Purpose	25
ii. Summary of Retained Earnings Model.....	25
iii. Components of the Retained Earnings Model	26
iv. Model Assumptions	36
v. Alternatives to Retained Earnings Model	41
D. Capital Model.....	41
i. Statement of Purpose	41
ii. Model Description	42
iii. Model Components.....	43
iv. Alternative Variable Sourcing for the Capital Model.....	68

A. Balances Model

i. Statement of Purpose

In order to implement the credit supply maintenance policy in the Policy Statement¹, the supervisory stress test assumes that a firm's projected balance sheet is held constant throughout the projection horizon. While an individual firm might assume that it reacts to rising losses by sharply restricting its lending (*e.g.*, by exiting a particular business line), the banking industry as a whole cannot do so without creating a “credit crunch” and substantially increasing the severity and duration of an economic downturn. The assumption that the magnitude of firm balance sheets will be fixed in the supervisory stress test ensures that covered companies cannot assume they will “shrink to health,” and serves the Board's goal of helping to ensure that firms remain sufficiently capitalized to accommodate credit demand in a severe downturn. This assumption also allows supervisors to evaluate the health of the banking sector as firms continue to lend during times of economic stress. In addition, by precluding the need to make assumptions about how underwriting standards might tighten or loosen across firms during times of economic stress, the Board follows the principle of consistency and comparability and promotes consistency across firms, as described in the Policy Statement.

To facilitate the flat balance sheet assumption, the Board uses the Balance Sheet Line-Item Projections Calculator (Projections Calculator). The Projections Calculator collects a comprehensive set of balance sheet and risk-weighted asset (RWA) items from firms' regulatory reports and aggregates them to serve as inputs to the Board's supervisory stress testing models. The Board generally projects that a firm takes actions to maintain its current level of assets,

¹ See 12 CFR 252, Appendix B.

including its securities, trading assets, and loans, over the projection horizon. The Board assumes that a firm's risk-weighted assets and leverage ratio denominators remain unchanged over the projection horizon, except to account for changes primarily related to the calculation of regulatory capital or the Board's regulations. The supervisory credit risk models used in the stress test calculate portfolio-level loss rates for loan and lease losses, while the pre-provision net revenue models calculate the ratio of the respective income or expense component divided by the corresponding balance sheet asset or liability level. These loss rates and growth ratios are multiplied by the aggregated balances calculated by the Projections Calculator to calculate losses and revenue used for calculating pre-tax net income in the supervisory stress test projections.

ii. Model Specification

The Projections Calculator sources data from the Consolidated Financial Statements for Holding Companies (FR Y-9C), Regulatory Capital Reporting for Institutions Subject to the Advanced Capital Adequacy Framework (FFIEC 101), and FR Y-14Q, Schedule M (Balances) regulatory reports, and it makes certain modifications to the data to facilitate compatibility with the downstream models, as described below. For example, the Projections Calculator converts data obtained from the FR Y-9C and FFIEC 101, which is originally reported in thousands of U.S. dollars, into millions of U.S. dollars. The instructions for the FR Y-9C, FFIEC 101, and FR Y-14Q regulatory reports require firms to report certain items as blank if they do not apply for a given firm. The Projections Calculator replaces missing values in any of the regulatory reports with zeroes, as needed.

The Projections Calculator also renames and aggregates regulatory reporting items for use in other supervisory stress testing models. For example, total domestic first lien residential mortgages are aggregated from corresponding items on FR Y-14Q, Schedule M (Balances),

specifically items 1.a.(1)(a) and (b), Columns A and B. The first lien model uses this aggregated domestic first lien amount to calculate projected losses on domestic first lien loans (by multiplying the aggregated domestic first lien amount by the loss rate calculated for the portfolio). Other categories are similarly aggregated, including other total loans, accrual loans, and fair value loans.

The supervisory stress test models related to credit risk losses primarily source inputs from the FR Y-14 data in order to have adequate information for assessing risk and projecting loss rates at the portfolio level, which is not always available from the FR Y-9C report. These loss rates are then multiplied by aggregated balance sheet items on FR Y-14Q, Schedule M (Balances), as projected by the Projections Calculator, to calculate total dollar amounts of loan and lease losses. The supervisory PPNR models rely on several data sources to project growth ratios. Each projected ratio is multiplied by its corresponding scaling balance from the FR Y-9C, as projected by the Projections Calculator, to calculate the total pre-provision net revenue included in pre-tax net income. To ensure that the dollar value of the portfolio of loans used to project revenue is consistent with the dollar value of the portfolio used to project loan losses, the Projections Calculator constructs a scaling factor and applies it to balances aggregated from FR Y-14Q, Schedule M (Balances). The purpose of the scaling factor is to ensure that the loan values reported on FR Y-14Q, Schedule M (Balances) are equal to the value of total loans as reported on FR Y-9C, Schedule HC-C (Loan and Lease Financing Receivables). The loan amounts constructed from FR Y-14Q, Schedule M (Balances) data are adjusted by the scaling factor.

The scaling factor is generated for each firm based on the amount of total loans the firm reports on Schedule M, as well as the combined amount of unearned income from loans and

leases (FR Y-9C, Schedule HC-C, item 11) and total loans and leases (FR Y-9C, Schedule HC-C, item 12). The FR Y-9C, Schedule HC-C instructions generally require that a firm report loan balances net of unearned income, and if a firm does include unearned income in loan balances, the unearned income is subtracted via item 11 before loan balance items are summed to calculate item 12. The FR Y-14Q, Schedule M (Balances) instructions require a firm to report balances as they are reported on FR Y-9C, Schedule HC-C. Therefore, to account for instances where unearned income is reported in FR Y-9C, Schedule HC-C, item 11, the scaling factor calculation adds back unearned income to the amount reported in FR Y-9C, Schedule HC-C, item 12.

Equation A1 - Scaling Factor

$$\text{Scaling factor} = \frac{\text{Total loans reported on the FR Y-9C} + \text{Unearned Income reported on the FR Y-9C}}{\text{Total loans aggregated from Schedule M. 1 of the FR Y-14Q}}$$

Total loan amounts generally align between FR Y-14Q, Schedule M (Balances) and FR Y-9C, Schedule HC-C, meaning that the scaling factor should be close to 1, as described in more detail below. In general, loan items on FR Y-14Q, Schedule M (Balances) are reported at more granular levels than loan items reported on FR Y-9C, Schedule HC-C, and are reported in millions of U.S. dollars. By contrast, items on FR Y-9C, Schedule HC-C are reported in thousands of U.S. dollars. The instructions for each report provide guidance on rounding. For example, the FR Y-9C instructions state that “Total assets” (FR Y-9C, Schedule HC, item 12) and “Total liabilities and equity capital” (FR Y-9C Schedule HC, item 29), which must be equal, must be derived from unrounded numbers and then rounded to ensure that these two items are equal as reported. The instructions for the reporting forms also indicate how firms’ balance sheet

breakout items should reconcile with aggregated items. The rounding and aggregation rules can sometimes result in misalignment between total loan balances on the two regulatory reports.

Most often, these discrepancies arise from rounding differences between the two reports.

If the total loans and leases reported on FR Y-14Q, Schedule M (Balances) and the combined amount of unearned income from loans and leases and total loans and leases on FR Y-9C, Schedule HC-C match, the scaling factor will equal 1, so the expectation is that it will be close to 1 for all firms in most circumstances. The scaling factor is used as a monitoring tool for the Projections Calculator. If a scaling factor deviates from 1 by more than 0.001, the Board may require a firm to resubmit its FR Y-9C or FR Y-14Q report. Otherwise, aggregated loan balances from FR Y-14Q, Schedule M (Balances) are multiplied by the scaling factor to calculate inputs for supervisory credit risk models.

The Projections Calculator methodology, by design, does not capture or reflect the actual expected evolution of balances at individual firms or in the banking industry under stress. Since there are no statistically calibrated parameters, no back testing or sensitivity testing is performed to monitor performance over time. Instead, the calculator aggregates line-items together and then holds those values constant in each quarter of the projection horizon.

iii. Alternatives Considered

Additional alternatives were considered by the Board when issuing the proposed model changes for the 2026 stress test. Discussion of these alternatives continues to be available on the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

B. Provisions Model

i. Statement of Purpose

The Board calculates projected pre-tax net income in the supervisory stress test by combining projections of revenue, expenses, provisions for credit losses, and other losses. Pre-tax net income is a component of projected net income, which feeds into a firm's post-stress capital ratios. For purposes of the supervisory stress test, the Board incorporates projected credit losses (provisions) into projected pre-tax net income, which are estimates of a firm's expected losses on loans and leases measured at amortized cost and held-to-maturity and available-for-sale debt securities.

The Provisions Model is an algebraic formula whose components are intended to reasonably reflect the calculation of allowances for credit losses under a hypothetical stress scenario. The output of the Provisions Model is intended to ensure that projected allowances for credit losses are sufficient to capture realized and expected losses in each firm's loan, lease and securities portfolios during each quarter of the projection horizon.

This process is critical to ensure that supervisory stress test projections are consistent, robust, and reasonable, in accordance with the principles in the Board's Policy Statement.

ii. Summary of the Provisions Model

The Provisions Model calculates the quarterly change in a firm's credit loss allowance—which accounts for a firm's estimate of expected credit losses on loans, leases and debt securities—in a hypothetical stress scenario. The main components of the Provisions Model are the allowance for expected loan, lease and securities losses in each quarter and realized losses in each quarter. For the purposes of this section, the term “realized losses” refers to modeled supervisory outputs that estimate loan net charge-offs and securities credit losses.

The reported allowance values as of the effective date of the stress test exercise for the Provisions Model come from the FR Y-9C report, in which firms provide their actual year-end allowance amounts for loans, held-to-maturity debt securities, available-for-sale debt securities, and for credit losses on off-balance-sheet credit exposures.² Under the Provisions Model, provisions for credit losses for each projected quarter in the supervisory stress test equate to the change in the allowance needed to cover the subsequent four quarters of expected loan or securities losses, net of realized losses in the current quarter.³ The following equation calculates projected provisions for each quarter t of the stress test horizon for losses on these assets:

Equation B1 – Provisions for Credit Losses

$$\text{Provisions for credit losses}_t = \text{Allowance}_t - \text{Allowance}_{t-1} + \text{Loan, Lease and Securities Credit Losses}_t + \text{Allowance Adjustment}_t$$

Where:

- *Allowance* is the allowance for expected loan and securities credit losses in the current period;
- *Allowance_{t-1}* is the allowance for expected loan and securities credit losses in the previous period;
- *Loan, Lease and Securities Credit Losses_t* is the loan and securities credit losses in the current period, as defined in loan net-charge off and securities credit loss models; and
- *Allowance Adjustment* is the smoothed difference between the supervisory calculation of the allowance as of the effective date of the stress test exercise and the firm's reported allowance as of the effective date of the supervisory stress test exercise, plus the smoothed off-balance sheet allowance reported by the firm as of the effective date of the supervisory stress test exercise. The smoothing process is described below.

² The corresponding FR Y-9C line items for the allowance balances are as follows: allowance for credit losses on loans and leases (Schedule HC, item 4.c), on held-to-maturity debt securities (Schedule HI-B, Part II, item 7, column B), on available-for-sale debt securities (Schedule HI-B, Part II, item 7, column C), on off-balance-sheet credit exposures (Schedule HC-G, item 3).

³ Although both use the same formula, the Board separately calculates the provisions for loan losses and the provisions for securities losses.

The Board defines the allowance in each quarter as the next four quarters of expected credit losses under the severely adverse scenario. This definition is informed by interagency guidance for loss allowances under the incurred loss model.⁴ The guidance states that, in determining the appropriate allowance level, firms should use a twelve-month average net charge-off rate as a benchmark, though it allows for a wide range of practices across the industry. Although this guidance is not applicable to credit losses on securities, the Board also applies this assumption when calculating the allowance for securities credit losses to align with the Stress Test Policy Statement principles of simplicity, as well as consistency and comparability.

The Board sources expected credit losses for retail and corporate loan portfolios, for all quarters t in the projection horizon, from supervisory credit risk models. Generally, under the expected loss approach, supervisory stress test models estimate expected loan losses by projecting the probability of default, loss given default, and exposure at default for each quarter of the projection horizon (see the Credit Risk Models Documentation).

The Board also sources loan and lease losses for retail and corporate credit loan portfolios for all quarters t in the projection horizon, from supervisory credit risk net charge-off models. Under the net charge-off approach, losses are projected using historical behavior of net charge-offs as a function of macroeconomic and financial market conditions and loan portfolio characteristics (see Section G in the Credit Risk Models Documentation). For the purposes of this section, realized losses and net charge-offs are used interchangeably.

⁴ See Office of the Comptroller of the Currency, et al., 2006, *Interagency Policy Statement on the Allowance for Loan and Lease Losses*. <http://www.federalreserve.gov/newsevents/press/bcreg/20061213a.htm>. The guidance suggests use of this benchmark for portfolios subject to FAS 5 (Statement of Financial Accounting Standards No. 5, *Accounting for Contingencies*). The guidance also indicates that other time horizons could be appropriate, depending on the effective lives of the loans in question. In addition, the guidance sets these benchmarks in the context of broader recognition that determining an appropriate level of the Allowance for Loan and Lease Losses could involve other forms of empirical analysis and considerable management judgment.

Finally, the Board sources allowances for credit losses on available-for-sale and held-to-maturity debt securities from the Securities Model's Credit Loss Model, which projects expected securities credit losses over a four-quarter look-ahead period assuming constant exposure (see Section A in the Market Risk Models Documentation).

The Board does not model allowances for off-balance sheet credit exposures; however, the Provisions Model gives firms credit for starting allowances for credit losses on off-balance-sheet credit exposures reported on the FR Y-9C as of the effective date of the supervisory stress test. Consistent with the approach to the firms' reported allowances for on-balance sheet exposures, allowances for credit losses for off-balance sheet exposures are linearly smoothed into the Board's provisions projection over the first nine quarters of the projection horizon.

iii. Components of the Provisions Model

The Board projects the allowance for loan and lease losses and the allowance for securities credit losses separately, as described below. The Board also applies an adjustment to the allowance that takes into account the allowance reported by the firm as of the effective date of the supervisory stress test exercise, as described below. These projections use assumptions about the look-ahead period for calculating allowances, a multiplier assumption for certain models that use net charge-off models instead of expected loss models, and a nine-quarter smoothing assumption for the allowance adjustment, as described in the model assumptions section below.

a. Allowance for Loan and Lease Losses

Loan and lease losses for each quarter t of the stress test horizon are projected by the retail and wholesale credit risk models (see the Credit Risk Models Documentation).

As described above, the Board assumes that the allowance at the end of each quarter covers projected expected loan and lease losses for four quarters into the future. The supervisory stress test calculation varies slightly depending on whether the supervisory loan and lease loss models project expected loan and lease losses or net charge-offs.

For supervisory models that project expected retail and corporate credit losses, the Board does not adjust projections before calculating the allowance.

For certain supervisory retail credit models that project net charge-offs instead of expected loan and lease losses, the Board uses multipliers to convert net charge-offs into expected losses before calculating the allowance. This multiplier approach is discussed in more detail in Section B.iv.b below.

Allowance for loan and lease losses is expressed for each firm i in each quarter t as:

Equation B2 – Allowance for Loan and Lease Losses

$$\text{Allowance for Loan and Lease Losses}_t = \text{Expected Loan and Lease Losses}_{t+1} + \text{Expected Loan and Lease Losses}_{t+2} + \text{Expected Loan and Lease Losses}_{t+3} + \text{Expected Loan and Lease Losses}_{t+4}$$

where:

- Loan Losses_t represents the expected loan and lease losses, sourced directly from supervisory credit loss models. Generally, under the expected loss approach, expected loan losses are estimated by projecting the probability of default, loss given default, and exposure at default for each quarter of the projection horizon (see the Credit Risk Models Documentation).

Allowance for loan and lease losses is then fed through the provisions formula using the following equation:

Equation B3 – Provisions for Loan and Lease Losses

$$\text{Provisions for Loan and Lease Losses}_t = \text{ALLL}_t - \text{ALLL}_{t-1} + \text{Loan and Lease Losses}_t + \text{ALLL Adjustment}_t$$

- $ALLL_t$ represents the allowance for loan and lease losses in the current period, as defined in Equation B2;
- $ALLL_{t-1}$ represents the allowance for loan and lease losses in the previous period, as defined in Equation B2;
- *Loan and Lease Losses_t* represents projected realized loan and lease losses in the current period using a net charge-off approach. Under this approach, supervisory models project using historical behavior of net charge-offs as a function of macroeconomic and financial market conditions and portfolio characteristics (see the Credit Risk Models Documentation).
- *ALLL Adjustment_t* is the smoothed difference between the supervisory calculation of the allowance for loan and lease losses as of the effective date of the stress test exercise and the firm's reported allowance for loan and lease losses as of the effective date of the stress test exercise, inclusive of the smoothed off-balance sheet allowance reported by the firm as of the effective date of the stress test exercise, as defined in Equation B5.

Loan and lease losses are sourced from supervisory credit loan loss models and the ALLL adjustment is calculated using both the FR Y-9C reported starting value and supervisory projections of ALLL (see Section B.iii.c below).

b. Allowance for Securities Credit Losses

As described above, the Board assumes that firms provision for expected future securities credit losses, and that this provisioning directly impacts net income. The provisions calculation therefore sources projections of expected debt securities credit losses over the next four quarters assuming constant exposure, from the Securities Model's Credit Loss Model (see Section A.iv in the Market Risk Models Documentation).

In a similar calculation to that for loan losses above, the Board projects provisions on available-for-sale and held-to-maturity securities for a given projection quarter in the supervisory stress test to reflect both the difference in supervisory allowances from the previous quarter to the current quarter and charge-offs on available-for-sale and held-to-maturity securities losses

during the current quarter.⁵ The Board's projections also incorporate an adjustment based on the firm-reported allowance on available-for-sale and held-to-maturity debt securities as of the effective date of the stress test exercise. In mathematical terms, the provisions formula for available-for-sale (AFS) and held-to-maturity (HTM) securities is expressed for each firm i in each quarter t as:

Equation B4 – Provisions for AFS/HTM Securities Losses

$$\text{Provisions for AFS/HTM securities losses}_t = \text{AFS/HTM Allowance}_t - \text{AFS/HTM Allowance}_{t-1} + \text{Charge offs on AFS/HTM securities losses}_t + \text{Allowance Adjustment}_t$$

where:

- $\text{AFS/HTM Allowance}_t$ represents the allowance for available-for-sale and held-to-maturity debt securities credit losses in the current period, as defined in the Market Risk Models Documentation.
- $\text{AFS/HTM Allowance}_{t-1}$ represents the allowance for available-for-sale and held-to-maturity debt securities credit losses in the previous period, as defined in the Market Risk Models Documentation.
- Charge-offs on Held-to-Maturity and Available-for-Sale Securities are estimated as the sum of credit losses from each credit sensitive debt security, applying probability and loss given default estimates to starting amortized cost security values, and are sourced directly from the Securities Model's Credit Loss Model (See Section A.iv in the Market Risk Models Documentation).
- $\text{Allowance Adjustment}_t$ is the nine-quarter smoothed difference between the supervisory calculation of the allowance for available-for-sale and held-to-maturity debt securities as of the effective date of the stress test exercise and the firm's reported allowance for available-for-sale and held-to-maturity debt securities as of the effective date of the stress test exercise.

Charge-offs on AFS/HTM securities are sourced from the supervisory Securities Credit Loss Model, and the allowance adjustment is calculated using both the FR Y-9C reported starting value and supervisory allowance projections (see Section B.iii.c below).

c. Allowance Adjustment

⁵ Charge-offs differ from unrealized losses in that charge-offs impact a firm's net income whereas unrealized losses do not.

As described above, the Board incorporates four quarters of projected losses into its calculation of a firm's allowance for credit losses as of the effective date of the supervisory stress test. This calculation is based on projected losses under the severely adverse scenario. By contrast, a firm's reported allowance as of the effective date of the supervisory stress test is based on the firm's estimate of losses on the effective date of the supervisory stress test. Any difference between the allowance for credit loss calculations is linearly smoothed into the Board's provisions projection over the nine quarters. In other words, each quarter of the projection horizon will include one ninth of the total difference between the supervisory allowance projection and the firm's reported allowance as of the effective date of the stress test exercise, in addition to any projected losses for that quarter. A discussion of the smoothing assumption is provided in Section B.iv.c below.

The Board also gives credit for allowances for credit losses on off-balance-sheet credit exposures reported on the effective date of the supervisory stress test. The Provisions Model expresses the allowance adjustment for each firm i in each quarter t of the projection horizon with the following equation:

Equation B5 – Allowance Adjustment

$$Allowance\ Adjustment_t = \frac{Allowance_0^{SUP} - Allowance_0^{Firm}}{9}$$

- $Allowance_0^{Firm}$ represents the firm reported allowance for credit losses and off-balance sheet credit exposures on the FR Y-9C as of the effective date of the stress test exercise;
- $Allowance_0^{SUP}$ represents the supervisory calculated allowance for credit losses under the severely adverse scenario as of the effective date of the stress test exercise.

Due to data limitations, the Board does not project the off-balance-sheet credit allowance under the severely adverse scenario. Rather, the Board only considers reported values as of the effective date of the supervisory stress test. Further details are provided in Section B.iv.c.

iv. Adjustments for Revenue and Loss Sharing Agreements⁶

The Board's treatment of revenue and loss sharing agreements (RLSA) for domestic bank cards is described in full in the Credit Risk Model document Section E.ii.f. The Board uses firm-reported FR Y-14 data and Credit Risk Models to determine shared amounts of realized loss and net revenue by firm. In cases where loss sharing extends to changes in loan loss reserves for the covered bank card accounts (defined in the FR Y-14M Schedule D.2 and referred to as "provision build"), the Provisions Model determines the provisions build share amount. The Board then applies the determined share amounts to the revenue or loss component where the firm originally reported the sharing activity, to ensure consistency with firm reporting practices. Methods for applying share amounts to credit loss items are described in the Credit Risk Model document Section E.ii.f.

The Board's calculation of loss sharing payments has the same components as the overall provisions calculation described in Equation B3 in the sections above. First, for a firm with covered RLSAs, the quarterly credit losses, quarterly change in supervisory allowance, and starting allowance adjustment for the firm's domestic bank cards is calculated gross of sharing. To estimate the starting allowance adjustment for domestic bank cards, an implied starting domestic bank card allowance is calculated by taking the firm's reported allowance for credit

⁶ This model documentation was updated in 2026 to reflect changes from the models proposed in 2025. The model documentation proposed in 2025 continues to be available on the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

cards from the FR Y-9C⁷ as of the effective date of the stress test and multiplying it by the share of domestic bank card balances as a percent of all credit card balances. For firms that indicate through FR Y-14M Schedule D.3 reporting that loss sharing is reported as reduced provisions, such that “provisions build” is a shared component of their agreements, the starting allowance for domestic bank cards is further adjusted by dividing by a factor equal to 1 minus the provision build share proportion, which is derived from FR Y-14M Schedule D.3 as described in the Credit Risk Model document. The additional adjustment to the starting allowance accounts for the fact that in such cases, a firm would report reduced starting allowances that reflect their existing loss sharing, whereas this step of the calculation requires a counterfactual starting allowance level before any partner sharing. The Provisions Model then calculates the loss, quarterly change in supervisory allowance, and starting allowance adjustment for domestic bank cards before loss sharing in the same manner as the overall provisions calculation described in Section B(iii).

For the RLSA adjustments to losses, domestic bank card losses are then multiplied by a realized loss share proportion. For RLSA adjustments to quarterly allowance changes and starting allowance adjustments, the domestic bank cards and the domestic bank cards starting allowance adjustment are respectively multiplied by a provision build share proportion. Loss and provisions build firm-specific share proportions are calculated using FR Y-14M Schedule D.3 data reported on their RLSAs (*see* Credit Risk Models Documentation for full details on the derivation of the realized loss share proportion and provision build share proportion).

⁷ See FR Y-9C Schedule HI-C, Line 3, Column B.

For firms that report loss sharing payments via reductions to loan loss provisions, the Board calculates loss sharing adjustments for RLSAs for each firm i in each quarter t using the following equations:

Equation B6.a – Modification to Losses for RLSA

$$\begin{aligned} \text{Modification to Losses for Revenue and Loss Sharing Agreements}_{i,t} \\ = \text{Realized Loss Share Proportion}_i * \text{Domestic Bank Card Loan Losses}_{i,t} \end{aligned}$$

Equation B6.b – Modification to Quarterly Allowance Changes for RLSA

$$\begin{aligned} \text{Modification to Provisions Build for RLSA}_{i,t} = \\ \text{Provision Build Share Proportion}_i * (\text{Allowance for Domestic Bank Cards}_{i,t} - \\ \text{Allowance for Domestic Bank Cards}_{i,t-1}) \end{aligned}$$

Equation B6.c – Modification to Starting Allowance Adjustment for RLSA

$$\begin{aligned} \text{Modification to Starting Allowance Adjustment for RLSA}_{i,t} = \\ \text{Provision Build Share Proportion}_i * \\ \text{Starting Allowance Adjustment for Domestic Bank Cards}_{i,t} \end{aligned}$$

where:

- *Loan Loss Share Proportion_i* is the proportion of realized losses on domestic bank cards that firm i shares under the RLSA, as defined in the Credit Risk Models Documentation;
- *Provision Build Share Proportion_i* is the proportion of provision build on domestic bank cards that firm i shares under the RLSA, as defined in the Credit Risk Models Documentation;
- *Allowance for Domestic Bank Cards_{i,t}* is the allowance for expected domestic bank card loan losses firm i holds in the current period;
- *Allowance for Domestic Bank Cards_{i,t-1}* is the allowance for domestic bank card loan losses firm i recognizes in the previous period;
- *Domestic Bank Card Loan Losses_{i,t}* is the domestic bank card loan losses firm i recognizes in the current period, as defined in loan net-charge off models; and
- *Starting Allowance Adjustment for Domestic Bank Cards_{i,t}* is the smoothed difference between the supervisory calculation of the allowance for domestic bank cards as of the effective date of the stress test exercise and the estimated derivation of firm i 's reported allowance on domestic bank cards as of the effective date of the supervisory stress test

exercise. The smoothing process matches the same process as described above in Section B(iii).

As described in the Credit Risk Models Documentation, projected loss sharing amounts (the sum of Equations B6.a, B6.b, and B6.c) cannot exceed the projected revenue sharing amounts calculated by the Pre-Provision Net Revenue Model (see Credit Risk Models Documentation, Section E.ii.f).

For firms that report loss sharing from RLSAs as a reduction in provisions, the loan and lease loss component of Equation B3 is reduced by the amount in Equation B6.a, the quarterly allowance change is reduced by the amount in Equation B6.b, and the starting allowance adjustment is reduced by the amount in B6.c. Finally, any amount above the RLSA cap is removed from the RLSA adjustment to loan losses.

For firms that report loss sharing from RLSAs as an increase in pre-provision net revenue, the total loss sharing amount is given by the sum of Equations B6.a, B6.b, and B6.c, after capping B6.a if needed. This loss sharing amount is then incorporated in pre-provision net revenue projections.

v. Model Assumptions

The Provisions Model has three core underlying assumptions: the look-ahead assumption, the multiplier assumption, and the nine-quarter smoothing assumption. These assumptions are described in the following sections.

a. Look-Ahead Assumption

Per supervisory guidance⁸, firms have discretion in the assumptions they use to provision for expected loan, lease and securities credit losses. However, to produce estimates across

⁸ See Federal Reserve Board of Governors, 2006. *Interagency Policy Statement on the Allowance for Loan and Lease Losses*. <http://www.federalreserve.gov/newsevents/press/bcreg/20061213a.htm>.

participating firms that align with the Policy Statement's principles of independence and consistency and comparability, the Provisions Model does not produce estimates using individual historic firm provisions data. Instead, the model assumes that provisioning for expected loss practices are the same across firms in the projection period.

As previously described, for a given quarter in the supervisory stress test, the Board's projected amounts for a firm's allowance for loan and lease losses equals the projected losses for the four subsequent quarters. This assumption aligns with the forward-looking nature of provisions and allowances for credit losses, as well as the forward-looking nature of the supervisory stress test. As described in Section B.ii, the rationale for this four-quarter assumption is based on supervisory guidance under the incurred loss model. For consistency, the Board also projects a firm's allowance for securities credit losses as the four subsequent quarters of securities losses. Furthermore, the Provisions Model calculates stress credit loss allowances using this four-quarter look-ahead because supervisory credit loss models extend through thirteen quarters and key scenario variable paths are available over this horizon. Any look-ahead longer than four quarters would require additional modeled credit losses or assumptions about credit losses past the thirteenth quarter, thereby increasing the complexity of credit loss models. On the other hand, it would be possible to calculate a shorter look ahead, but the Board determined that a shorter look ahead would be inadequate in light of the stress testing principle of conservatism and the twelve month benchmark in the Interagency Policy Statement on the Allowance for Loan and Lease Losses supervisory guidance.⁹ The Board's supervisory estimate of the allowance can differ from a firm's reported allowance as of the effective date of the stress

⁹ *Id.* See also 12 CFR 252, Appendix B (section 1.6).

test exercise. This is because supervisory estimates of allowances are assumed to cover projected credit losses for four quarters into the future in a hypothetical stress scenario, whereas the firm's reported allowance is based on the firm's estimate of losses on the effective date of the supervisory stress test under prevailing economic conditions and outlooks.

b. Multiplier Assumption

The Board applies a 1.15x multiplier to retail loan portfolios for which the Board does not produce expected loss models and instead only produces net charge-off regression models, as described in the Credit Risk Models Documentation. Multipliers convert net charge-offs into expected losses for the purposes of calculating the allowance for loan and lease losses. Larger multipliers generally increase provisions expense, while smaller multipliers reduce them. The Board derived multipliers using analysis on the length of time between expected loss recognition and net charge-off recognition (loss emergence period) based on analysis using data from the 2008 financial crisis and shortly afterwards.¹⁰ Multipliers can be calibrated by comparing four-quarter summed net charge-off rates to cumulative four-quarter default rates. For this comparison, the Board used bank card loan level data from the FR Y-14M, as well as data on credit card accounts sourced from a government agency to calculate the rate of transition to default and net charge-off loss data from the FR Y-14Q. Results showed a range of possible multipliers; the largest multiplier of 1.15x occurs in the earlier period of the 2008 financial crisis (specifically, March 2008). In accordance with the principle of conservatism, and considering the macroeconomic stress peak in the hypothetical scenario occurs in the first scenario quarter,

¹⁰ KPMG, LLP, 2013. *KPMG LLP Credit Risk Management Practices 2012 Survey on the Allowance for Loan and Lease Losses*. <https://assets.kpmg.com/content/dam/kpmg/pdf/2013/09/survey-allowance-loan-lease-losses-2012.pdf>.

the Board chose the largest and earliest multiplier of 1.15x. For a more detailed discussion of the 1.15x multiplier, please see Section A.ii.e of the Proposed Model Changes for the 2026 Stress Test document.

The Board applies this 1.15x multiplier to the following portfolios subject to modeling of net charge-offs only: other consumer loans, business and corporate credit card loans, small business loans, student loans, and international retail loans. The multiplier is not applied to retail noncore net charge-off model outputs for international small business, international home equity, international first mortgage, international other consumer, international auto, and retail non-purpose loans. These international portfolios rely on percentiles of the historical loss distribution rather than the contemporaneous macroeconomic environment. (For more details on these models, please see Section G in the Credit Risk Models Documentation.) The calibration of these models already accounts for any difference in timing between defaults and charge-offs, and so an additional multiplier may be redundant. The retail non-purpose loan portfolio uses a loss rate set to be equivalent to the supervisory loss rate on loans for purchasing and carrying securities, which are modeled as wholesale rather than retail exposures. Because no multiplier is assigned to wholesale loans, it would be inconsistent to apply a multiplier to the retail non-purpose loans and there is no assigned multiplier on portfolios assigned constant loss rates, including retail non-purpose loans.

c. Allowance Adjustment and Nine Quarter Smoothing Assumption

The supervisory stress test's estimate of the allowance as of the effective date of the stress test exercise, which is based on projected losses under the severely adverse scenario, is usually much larger than a firm's actual allowance amount as of the effective date of the stress test exercise. A firm's reported allowance as of the effective date of the stress test exercise is

based on current economic conditions and current expectations of future economic conditions, which likely do not represent the severely adverse economic scenario that is the basis for the supervisory estimate of allowances.

To bring the firm's reported allowance in line with the supervisory estimate under stress in a simple, stable and comparable manner, the Board assumes that this difference is linearly smoothed into the Board's provisions projection over the nine quarters.¹¹ Generally, this is equivalent to assuming that a firm gradually recognizes credit losses over the course of the stress scenario. Longer smoothing periods generally increase minimum capital ratios in the stress test, and shorter smoothing periods generally decrease them. Shorter smoothing periods may also bring the timing of a firm's minimum quarter earlier in the projection horizon.

The nine-quarter smoothing assumption affects the timing of the provisions, which in turn affects net income levels and thus capital ratios for each quarter of the horizon. The impact of the smoothing assumption on capital ratios depends on a variety of factors that differ across firms, across scenarios, and from year-to-year in different supervisory stress test cycles. These factors include the size of the allowance adjustment, the size of the credit for reported qualifying allowances for credit losses on off-balance-sheet credit exposures, and the path of other components of net income over the projection horizon.

vi. Alternatives to the Provisions Model

Additional alternative model structures and specifications were considered by the Board when issuing the proposed model changes for the 2026 stress test. Discussion of these

¹¹ See 12 CFR 252, Appendix B, parts 1.3–1.5.

alternatives continues to be available on the Board's website, at

<https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

C. Retained Earnings Model

i. Statement of Purpose

Retained earnings are a component of regulatory capital as defined by the Board's Regulation Q.¹² Retained earnings represent the undistributed profits which a firm could use to absorb losses and serve as a key component of projected common equity tier 1 capital in the stress test. Projected common equity tier 1 capital in turn feeds into the projections of a firm's post-stress capital ratios for purposes of the supervisory stress test.

The Board calculates retained earnings in the supervisory stress test by combining projections of pre-tax net income, taxes, and capital distributions. The model the Board uses to calculate retained earnings (the Retained Earnings Model) is an algebraic formula whose components are intended to reflect a firm's financial position, given supervisory projections of revenues, expenses, losses, and provisions, in a hypothetical stress scenario.

ii. Summary of Retained Earnings Model

The Retained Earnings Model reflects the main items a firm would use to calculate retained earnings in a hypothetical stress scenario given the relevant and current accounting, tax, and regulatory reporting instructions. Starting values for the Retained Earnings Model items as of the effective date of the stress test are sourced from the FR Y-9C or the FR Y-14Q.

¹² See 12 CFR 217.20(b)(2).

The Retained Earnings Model includes several items which measure firm profitability and financial position before taxes. Specifically, retained earnings projections include revenues, expenses, gains, and losses excluding other comprehensive income.

The Model takes starting values for retained earnings as of the effective date of the stress test exercise from the FR Y-9C, Schedule HC-R, Part I item 2 (Retained earnings). In the first quarter of the projection horizon and onwards, the Model then adjusts this value with supervisory projected after-tax net income minus any planned cash dividends declared on preferred stock and projected net income (loss) attributable to minority interests. The Model does not include common dividends, which are assumed to be zero in this calculation (four quarters of common dividends are included in the calculation of each firm's stress capital buffer separately). The Model calculates retained earnings in the stress scenario using the following equation for each firm i in each quarter t over the projection horizon:¹³

Equation C1 - Retained Earnings

$$\text{Retained Earnings}(t,i) = \text{Retained Earnings}(t-1,i) + \text{Pre-Tax Net Income(Loss)}(t,i) - \text{Tax Expense(Benefit)}(t,i) - \text{Preferred Dividends}(t,i) - \text{Net Income(Loss) Attributable to Minority Interests}(t,i)$$

iii. Components of the Retained Earnings Model

a. *Pre-Tax Net Income (Loss)*

The components of supervisory stress pre-tax net income are:

- projections of pre-provision net revenue, where net revenue includes interest income, non-interest income, interest expenses, non-interest expenses and operational risk expenses, and incorporates applicable adjustments for RLSAs (see the PPNR Models Documentation and the Operational Risk Models Documentation for more details);

¹³ Note that for all formulas in this section, any model variable name in parentheses indicates a negative sign and value for the item. Positive or negative signs in front of a variable name indicate the proper mathematical operation and are not meant to indicate variable signage.

- projections of provisions, inclusive of applicable adjustments for RLSAs (see Section B);¹⁴
- projections of trading and counterparty losses (see Sections E, F, G, and H in the Market Risk Models Documentation) and;
- projections of other losses, where “other losses” include losses on loans held for sale and measured under the fair value option (see Section B in the Market Risk Models Documentation), accrual loan hedges (see Section B in the Market Risk Models Documentation), equity losses (gains) (see Section A in the Market Risk Models Documentation), and private equity fair value losses (gains) (see Section D in the Market Risk Models Documentation).

The Retained Earnings Model takes quarterly values of these items for each firm i in each quarter t over the projection horizon to calculate stress Pre-Tax Net Income, expressed formulaically below:

Equation C2 - Pre-Tax Net Income

$$\text{Pre-tax Net Income(Loss)}(t,i) = \text{Pre-Provision Net Revenue (Loss)}(t,i) - \text{Provisions}(t,i) - \text{Trading and Counterparty Losses(Gains)}(t,i) - \text{Other Losses (Gains)}(t,i)$$

Although all firms can experience gains and losses from trading and counterparty activities, in the stress test only certain covered firms are subject to the Global Market Shock scenario or the largest counterparty default component scenario. The decomposition of trading and counterparty losses (gains) from other losses in the projection of pre-tax net income enables the Board to disclose these results separately for impacted firms, thus facilitating better results analysis and transparency.

¹⁴ This model documentation was updated in 2026 to reflect changes from the models proposed in 2025. The model documentation proposed in 2025 continues to be available on the Board’s website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

b. Tax Expense (Benefit)

Next, the Board subtracts the impact of tax expense from (or adds the impact of a tax benefit to) pre-tax net income. The components of tax expense projections under stress include, quarterly:

- taxes owed (see taxes owed subsection below);
- changes in deferred tax assets that arise from net operating loss and tax credit carryforwards, net of any related valuation allowances and net of deferred tax liabilities¹⁵ (referred to as “DTAs from NOL”, see Section C.iii.d);
- change in deferred tax assets arising from temporary differences, net of deferred tax liabilities (referred to as “DTAs from Timing”, see Section C.iii.e below); and
- change in valuation allowance (see Section C.iii.f below), calculated as the valuation allowance related to DTAs from Timing in the current projection quarter minus the valuation allowance related to DTAs from Timing in the prior projection quarter. The starting values for valuation allowance related to DTAs from Timing are sourced from the Y-14Q Schedule D, while each projection quarter’s value for the valuation allowance is calculated as described in Section C.iii.f below.¹⁶ The amount of the valuation allowance is floored at zero so that it cannot be negative.¹⁷ The Retained Earnings Model does not project tax receivables.

The Retained Earnings Model’s tax expense equation incorporates tax items in a simple, consistent manner for firms in the stress test, expressed by the formula below¹⁸ for each firm i in each quarter t over the projection horizon:

¹⁵ See FR Y-9C Schedule HC-R, Part I, Line 8.

¹⁶ In the first projection quarter, the change in valuation allowance would equal the valuation allowance as derived per the methodology described in Section C.iii.f for the first projection quarter, minus the firm’s reported starting valuation allowance related to DTAs from Timing as sourced from the Y-14Q Schedule D.

¹⁷ The Board has made clarifications to the text of this 2026 model documentation compared to the model documentation proposed in 2025. The model documentation proposed in 2025 continues to be available on the Board’s website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

¹⁸ As an alternative, this can be expressed simply as tax expense = 21% * pre-tax net income + change in valuation allowance. However, Equation C3 provides a detailed breakout of the items that the Retained Earnings model uses to calculate tax expense.

Equation C3 – Tax Expense

$$\text{Tax Expense(Benefit)}(t,i) = \text{Taxes Owed}(t,i) - \text{change in DTAs from NOL}(t,i) - \text{change in DTAs from Timing}^{19}(t,i) + \text{change in Valuation Allowance}(t,i)$$

Taxes Owed represents taxes the firm would owe by the end of each quarter and is floored at zero. And for each firm i in each quarter t over the projection horizon;

Equation C4 – Taxes Owed

$$\begin{aligned} \text{Taxes Owed}(t,i) &= 0 \text{ if Taxable Income (Loss) } (t,i) < 0 \\ \text{and Taxes Owed}(t,i) &= (\text{Tax Rate} * \text{Taxable Income(Loss) } (t,i)) - \text{Min}(\text{DTAs from NOL}(t,i-1), 80\% * \text{Tax Rate} * \text{Taxable Income(Loss) } (t,i)), \text{ if Taxes Owed}(t,i) > 0 \end{aligned}$$

The Retained Earnings Model calculates Taxable Income as:

Equation C5 – Taxable Income

$$\begin{aligned} \text{Taxable Income(Loss) } (t,i) &= \text{Pre-Provision Net Revenue}(t,i) - \text{Net Charge Offs on Loans and Leases}(t,i) - \text{Charge Offs on Held-to-Maturity and Available-for-Sale Securities - Trading and Counterparty Losses(Gains)}(t,i) - \text{Fair Value Loan Losses(Gains) } (t,i) + \text{Accrual Loan Hedge Gains(Losses) } (t,i) \end{aligned}$$

where:

- Pre-Provision Net Revenue, Trading and Counterparty Losses (Gains), Fair Value Loan Losses (Gains) and Accrual Loan Hedge Gains (Losses) are defined in Section C in the Aggregation Models Documentation (Retained Earnings).
- Net charge-offs on loans and leases are sourced from Credit Risk Models, which project losses using historical behavior of net charge-offs as a function of macroeconomic and financial market conditions and loan portfolio characteristics, and are inclusive of applicable adjustments for RLSAs (see the Credit Risk Models Documentation).²⁰

¹⁹ Reflecting FR Y-9C reporting instructions which exclude other comprehensive income from retained earnings, the Board removes other comprehensive income-related DTAs from Timing from the tax expense formula via simple subtraction.

²⁰ This model documentation was updated in 2026 to reflect changes from the models proposed in 2025. The model documentation proposed in 2025 continues to be available on the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

- Charge-offs on Held-to-Maturity and Available-for-Sale Securities, estimated as the sum of credit losses from each credit sensitive debt security, applying probability and loss given default estimates to starting amortized cost security values, are sourced directly from the Securities Model's Credit Loss Model (See Section A.iv in the Market Risk Models Documentation).

c. Taxes Owed

The Retained Earnings Model defines taxes owed as the statutory federal corporate tax rate applied to taxable income, where taxable income equals pre-provision net revenue after net charge offs on loans and leases (see Section B), charge-offs on held-to-maturity and available-for-sale securities, trading and counterparty losses (gains), fair value loan losses (gains), and accrual loan hedge gains (losses), as shown in Equation C5 above. Negative values for taxable income indicate that a firm is not profitable under stress and as a result does not owe taxes that quarter. The Model also designates negative taxable income as estimated total net operating losses for the quarter, which are used to estimate tax benefits generated in the form of deferred tax assets. Consistent with the Stress Test Policy principles of simplicity and conservatism, the Board does not model tax receivables in its tax expense estimates under a hypothetical stress scenario.

Conversely, positive taxes owed indicate that a firm is profitable under the hypothetical stress scenario and thus the Retained Earnings model assumes these positive values represent a firm's gross tax liability for the quarter. The model then reduces positive taxes owed by the maximum possible DTA from NOL carryforward usage, which is set to the lesser of 80 percent of taxable income or the prior period's stock of DTAs from NOL (described in Section C.iii.d). This seeks consistency with the statutory provisions of the Tax Cuts and Jobs Act, which limits

firms' ability to reduce taxes through net operating loss carryforwards to 80 percent of taxes owed.²¹

d. DTAs from NOL

As part of covered firms' tax expenses and benefits, the Board seeks to simulate deferred tax assets from net operating losses. When supervisory projections under stress produce a net operating loss, the Retained Earnings Model generates a deferred tax asset to reflect net operating losses, which in turn increases a firm's tax benefits under stress. Conversely, if a firm is projected to have positive taxable income and therefore a higher tax expense in the hypothetical stress scenario, the Retained Earnings Model recognizes that firm would use their DTAs from NOL to offset this tax expense, thus reducing the balance of DTAs from NOL.

To calculate DTAs from NOL in each quarter t of the projection horizon, the Board starts with values reported by firms in reporting form FR Y-14Q, Schedule D (Regulatory Capital). Then, net operating losses for each quarter t of the projection horizon are calculated using the results of the stress test calculation of taxable income.

Equation C6 – DTAs from NOL

$$DTAs\ from\ NOL(t,i) = DTAs\ from\ NOL(t-1,i) + Tax\ Rate * Taxable\ Income(Loss)\ (t,i), \\ \text{if } Taxable\ Income(Loss)\ (t,i) < 0$$

$$DTAs\ from\ NOL(t,i) = DTAs\ from\ NOL(t-1,i) - Minimum(DTAs\ from\ NOL(t,i-1), (80 \\ \text{percent} * Tax\ Rate * Taxable\ Income(Loss)\ (t,i)), \text{if } Taxable\ Income(Loss)\ (t,i) > 0$$

e. DTAs from Timing

²¹ Tax Cuts and Jobs Act of 2017, Public Law 115-97, 131 Stat. 2054 (2017); 26 U.S.C. 172(a).

As part of covered firms' tax expenses and benefits, the Board seeks to simulate deferred tax assets from temporary differences. The Retained Earnings Model generates a deferred tax asset under stress when a firm records a gain or loss for financial reporting purposes earlier or later than when it records these same gains or losses for tax purposes (DTAs from Temporary Differences, referred to as "DTAs from Timing" here). In accordance, the Retained Earnings Model calculates DTAs from Timing as the difference between when income or losses are booked for financial reporting purposes and for tax purposes. Growth of these assets in turn increases a firm's tax benefits under stress.

The Board designates projected credit provisions from the stress test Provisions Model, as well as fair value private equity gains (losses) and equity gains (losses), as income or losses booked for financial reporting purposes. For each quarter of the projection horizon, the Board calculates the difference between income or losses booked for financial reporting purposes and those booked for tax purposes (as defined above in Equation C5).

In addition, the Board incorporates the tax impact of any other relevant unrealized gain and loss items that could generate temporary differences and that are available from other supervisory stress projection models; specifically, unrealized available-for-sale securities gains (losses),²² private equity fair value gains (losses), and equity gains (losses). The Board multiplies these projected unrealized values by the statutory federal corporate tax rate to calculate DTAs from Timing for each firm i in each quarter t over the projection horizon.

Equation C7 – DTAs from Timing

²² Applicable only to firms that include accumulated other comprehensive income in capital.

$$DTAs\ from\ Timing(t,i) = DTAs\ from\ Timing(t-1,i) + Tax\ Rate * ([Provisions\ for\ Loan\ and\ Debt\ Securities\ Credit\ Losses(t,i) - Net\ Charge\ offs\ on\ Loans\ and\ Leases(t,i) - Charge\ offs\ on\ Held-to-Maturity\ and\ Available-for-Sale\ Securities(t,i)] - Unrealized\ Available-for-Sale\ Securities\ Gains(Losses)(t,i)^{23} - Equity\ Gains(Losses)(t,i) - Private\ Equity\ Fair\ Value\ Gains(Losses)(t,i)^{24})$$

where:

- Starting values for DTAs from Timing as of the effective date of the stress test exercise are sourced from the FR Y-14Q, Schedule D (Regulatory Capital) form.
- Provisions for credit losses are sourced from the Provisions Model, inclusive of applicable adjustments for RLSAs (see Section B).
- Net charge-offs on loans and leases are sourced from Credit Risk Models, which project losses using historical behavior of net charge-offs as a function of macroeconomic and financial market conditions and loan portfolio characteristics, and are inclusive of applicable adjustments for RLSAs (see the Credit Risk Models Documentation).²⁵
- Charge-offs on Held-to-Maturity and Available-for-Sale Securities, estimated as the sum of credit losses from each credit sensitive debt security, applying probability and loss given default estimates to starting amortized cost security values, are sourced directly from the Securities Model's Credit Loss Model (see Section A.iv in the Market Risk Models Documentation).
- Unrealized Available-for-Sale Securities Gains (Losses), calculated as the difference between each debt security's fair value and its amortized cost, are sourced directly from the Securities Model's AFS Debt Securities Model (see Section A in the Market Risk Models Documentation).
- Equity Gains (Losses), calculated as the sum of security position-level fair value changes, are sourced directly from the Securities Model (see Section A in the Market Risk Models Documentation).
- Changes to private equity fair value, which are projected as changes in the fair value of private equity assets over the stress test horizon regardless of the individual accounting elections made in determining their carry values, and recognized as unrealized gains (losses), are sourced directly from the Private Equity Model (see Section D in the Market Risk Models Documentation).

In addition to the items listed above, DTAs from Timing can arise from many different sources, such as deferred compensation and other employee benefits; investment tax credits;

²³ Applicable only to firms that include accumulated other comprehensive income in capital.

²⁴ Applicable only to firms subject to the Global Market Shock.

²⁵ This model documentation was updated in 2026 to reflect changes from the models proposed in 2025. The model documentation proposed in 2025 continues to be available on the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

asset depreciation; capital leasehold improvements; and mark-to-market adjustments for certain financial instruments. The Board assumes that the contribution of these items to DTAs from Timing remains constant as of the effective date of the stress test exercise. Producing dynamic estimates for these values in each quarter t of the projection horizon would require an increase to the Board's information collection requirements and would necessitate additional models. Moreover, the impact of different DTA types depends on various factors, such as size, pre-tax net income stress path, and amortization and depreciation schedules.

The Tax Cuts and Jobs Act generally eliminated corporate tax carrybacks.²⁶ As such, the Retained Earnings Model does not calculate tax carrybacks.

f. Valuation Allowance related to DTAs from Timing²⁷

Firms generally record a valuation allowance as a contra-asset account²⁸ against their deferred tax assets if, based on available evidence, it is more likely than not that some portion of the deferred tax asset will not be realized. The Valuation Allowance equation in the Retained Earnings Model thus evaluates whether a firm will have sufficient taxes paid for the valuation allowance to realize its DTAs from Timing during a stress event (see Section C.iii.e). The Board deems DTAs from Timing to be unrealizable in a stress scenario based on taxes paid for the valuation allowance over a predetermined three-year time period, spanning the prior two years up to the projection quarter (a “two year lookback”) and a year after the projection quarter (a “one year lookahead”). If a firm does not generate sufficient positive taxes paid for the valuation

²⁶ Tax Cuts and Jobs Act of 2017, Public Law 115-97, 131 Stat. 2054 (2017).

²⁷ This model documentation was updated in 2026 to reflect changes from the models proposed in 2025, as well as to make clarifications to the text. The model documentation proposed in 2025 continues to be available on the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

²⁸ Contra asset accounts have a credit balance which is the opposite of normal debit balance for asset accounts. Contra asset accounts are used to reduce the value of another asset account.

allowance during this time period, the Board assumes it is more likely than not that the deferred tax asset would not be realized and as a result projects a valuation allowance related to DTAs from Timing. The Board estimates the valuation allowance as the gap between a firm's projected stock of DTAs from Timing in a given projection quarter and the projected taxes paid for the valuation allowance²⁹ in the relevant, predetermined three-year period. Section C.iv.a below provides a discussion of valuation allowance assumptions.

The Board sources the starting values for valuation allowance from the FR Y-14Q Schedule D. The amount of the valuation allowance is floored at zero so that it cannot be negative.

g. Net Income Attributable to Minority Interests

The Retained Earnings Model adjusts after-tax net income (loss) by net income (loss) attributable to non-controlling (minority) interests and sources starting values from the FR Y-9C as of the effective date of the stress test exercise.³⁰ As the stress test is performed at the holding company level, the Board does not develop stress test models that project income on a legal-entity basis. As a result, the Retained Earnings Model estimates the quarterly stress value of income attributable to minority interests by multiplying 60 percent (i.e., a 40 percent haircut) to the firm-reported, trailing historic four-quarter average value of income attributable to minority interests. This approach is consistent with the Board's principles of simplicity, conservatism and

²⁹ The prior eight quarters is inclusive of the projection quarter in which the valuation allowance is being calculated, and the seven quarters preceding it. Taxes paid for the valuation allowance is calculated as the supervisory tax rate multiplied by the taxable income as defined by Equation C5 excluding net charge offs on loans and leases and charge offs on held-to-maturity and available-for-sale securities; this is to avoid evaluating the realizability of DTAs from Timing against their own future reversal. For quarters within the prior eight quarters which precede the stress test's projection horizon, the values necessary to calculate the taxes paid for the valuation allowance are sourced from each firm's Y-9C reporting from the corresponding historical quarter.

³⁰ FR Y-9C Schedule HI, Item 13.

independence, as defined in the Board's Stress Test Policy Statement.³¹ A detailed discussion of this assumption is in Section C.iv.c below.

h. Preferred Dividends

The capital rule dictates certain assumptions regarding capital actions in the supervisory stress test projection horizon. Specifically, firms must make payments on instruments that qualify as additional tier 1 capital or tier 2 capital equal to the stated dividend, interest, or principal due on such instruments. The Retained Earnings Model thus assumes that firms continue to pay their preferred dividends throughout the projection horizon.³² As such, planned cash dividends on preferred stock declared by firms on the FR Y-14A, Schedule C (Regulatory Capital Instruments) flow through the Retained Earnings Model (see Equation C1). This assumption that firms continue to pay preferred dividends under a hypothetical stress scenario also reflects the fact that preferred stock agreements often require dividends to be paid first after liabilities are settled but before distributions can be made to other shareholders.

iv. Model Assumptions

a. Valuation Allowance Eight-Quarter Lookback and Four-Quarter Lookahead³³

The Retained Earnings Model valuation allowance evaluates the amount of DTAs from Timing that could likely be used to offset taxes paid under a hypothetical stress scenario. For this purpose, the Board assumes a combined eight-quarter look-back and four-quarter look-ahead

³¹ See 12 CFR 252, Appendix B.

³² See 12 CFR 252.56(b)(2).

³³ This model documentation was updated in 2026 to reflect changes from the models proposed in 2025. The model documentation proposed in 2025 continues to be available on the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

for the valuation allowance to align with accounting guidance on the valuation allowance.³⁴ This assumption captures the potential impact that lower earnings under stress may have on the realizability of DTAs in a simple, consistent, and comparable manner, and also ensures a straightforward calculation based on the published 13-quarter horizon of the supervisory severely adverse scenario and historical data.

The combined eight-quarter look-back and four-quarter look-ahead requires the Board to make assumptions regarding certain supervisory stress test inputs for taxable income when unavailable for projection quarters 10–13. Specifically, supervisory stress test projections of fair value loan losses do not extend past the ninth projection quarter. The Board thus assumes that firms do not make fair value loan losses or gains for the last four quarters of the hypothetical stress scenario. The materiality of this assumption is low; the Board analyzed various alternatives given available data and projections. Alternatives include setting these equal to the ninth-quarter value for fair value loss (gain) under the supervisory adverse scenario; however, doing so generally represents a less conservative approach, as the relevant macroeconomic scenario variables generally follow a recovery trajectory, which supports gains. At the same time, using supervisory baseline values in a similar manner represents a more conservative approach, as macroeconomic variable paths are generally flatter and can slightly decline, making losses more likely. Setting the out-quarter values³⁵ to zero is thus a reasonably independent, simple, and conservative approach in comparison with the two alternative options explored. The

³⁴ See ASC 740-10-30-21, which states: “Forming a conclusion that a valuation allowance is not needed is difficult when there is negative evidence such as cumulative losses in recent years”; and KPMG, “[Accounting for Income Taxes: Handbook](#)”, PwC, “[Income Taxes Guide](#)”, Deloitte, “[Sources of Taxable Income](#)”, EY, “[Income Taxes](#)”, which interpret the “recent years” mentioned in ASC 740-10-30-21 to mean in practice the current year and prior two years.

³⁵ The out quarters are the 10th, 11th, 12th, and 13th quarters in the hypothetical stress scenario.

difference in results between the current approach and these alternatives is also generally immaterial. In the 2024 stress test and 2025 stress test, the impact of this assumption compared with the alternatives described above was modest across firms, with most firms seeing no impact to capital ratios and individual impacted firms seeing differences in their minimum stress capital ratio of 5 basis points or less.

b. Unitary Tax Rate Assumption

All applications of tax rates in the tax expense formula assume a uniform statutory corporate tax rate of 21 percent under a single U.S. federal tax jurisdiction. Setting all firms' tax rate to 21 percent implicitly assumes no tax exclusions, deductions, or additional state and local taxes, and assumes that the effective rate is similar to the legally-defined corporate tax rate of 21 percent.³⁶ Assuming that all income and deferred tax assets are subject to the same federal U.S. statutory tax rate simplifies the Retained Earnings Model and facilitates comparability across firms. As such, this assumption is simple and consistent, reflecting the Board's stress testing principles.³⁷

The Board has analyzed this assumption by calculating firms' minimum stress capital ratios under alternative uniform supervisory tax rates each year, ranging from 0 to 100 percent. Results show that firms with positive cumulative pre-tax net income tend to experience less severe capital declines with a lower tax rate. At the same time, cumulatively unprofitable firms post higher capital ratios with a higher tax rate. Specifically, using 2024 stress test results, the aggregate capital decline is nine basis points more severe under an assumed 15 percent tax rate and five basis points less severe under a 25 percent tax rate. As a result, the stress projections of

³⁶ Tax Cuts and Jobs Act of 2017, Public Law 115-97, 131 Stat. 2054 (2017); 26 U.S.C. 11(a)–(b).

³⁷ See 12 CFR 252, Appendix B.

after-tax net income are more conservative with lower tax rates, all else equal. Our analysis also demonstrates that firms with stronger pre-provision net revenue and with larger deferred tax asset levels are more sensitive to tax rate assumptions.

Alternative model structures and specifications were considered by the Board when issuing the proposed model changes for the 2026 stress test. Discussion of these alternatives continues to be available on the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

c. Net Income Attributable to Minority Interests 40 Percent Haircut

The Retained Earnings Model applies a 40 percent haircut to recent historic performance of net income attributable to minority interests to align with the Board's stress test principles of conservatism and simplicity.³⁸ The Board thus represents net income attributable to minority interests for each firm i in each quarter t over the projection horizon as:

Equation C8 – Net Income Attributable to Minority Interests

$$\text{Net Income(Loss) Attributable to Minority Interests}(t,i) = [\text{Net Income(Loss) Attributable to Minority Interests}(t,i \text{ at time } 0) + \text{Net Income(Loss) Attributable to Minority Interests}(t,i - 1) + \text{Net Income(Loss) Attributable to Minority Interests}(t,i - 2) + \text{Net Income(Loss) Attributable to Minority Interests}(t,i - 3)] / 4 * 60\%$$

The 60 percent ratio—which, otherwise stated, represents a 40 percent haircut—was adopted in 2019 for the 2020 Stress Test. It was calibrated at that time based on the most recent³⁹ four-year average of the relationship between actual net income attributable to minority interests and firm-projected stress net income attributable to minority interests. In aggregate, the data showed a stable relationship, where projected net income attributable to minority interests

³⁸ See 12 CFR 252, Appendix B.

³⁹ Specifically, 2015–2018.

ranged between 55 and 70 percent of actual net income attributable to minority interests in any given year before each stress test exercise. The Board thus chose the cross-firm, average haircut over the four-year period of 40 percent and applies this to actual net income attributable to minority interests in the year before each stress test exercise. Although individual firm projections of net income attributable to minority interests showed significant variation in pre- and post-stress figures for individual firms, regular annual monitoring analysis of results shows that for most firms this item is immaterial.

As an alternative, the Board considered using firm-specific projections of this item in the stress test, because firms that report the FR Y-14A provide stress projections for net income attributable to minority interests. An analysis of this item in the 2024 firm-run stress tests demonstrated that firm-provided values produce approximately the same capital results as setting net income attributable to minority interests to zero over the projection horizon; only in a handful of cases do firm projections indicate a slight (less than 10 basis points) difference in either direction.⁴⁰

Given the relative immateriality of net income attributable to minority interests for retained earnings projections and the information collecting burden that would be required to project losses for minority interests, the Board has chosen this approach to minimize complexity and align with the Board's stress test principle of simplicity.

⁴⁰ Analysis based on 2024 Stress Test results and FR Y-14A reporting.

v. Alternatives to Retained Earnings Model

The Retained Earnings Model is based on accounting concepts, definitions and the FR Y-9C reporting instructions, and so the Board has not explored alternative models other than those described in this section.

D. Capital Model

i. Statement of Purpose

The Board includes five regulatory capital measures in the supervisory stress test: (1) common equity tier 1 risk-based capital ratio;⁴¹ (2) tier 1 risk-based capital ratio;⁴² (3) total risk-based capital ratio;⁴³ (4) tier 1 leverage ratio;⁴⁴ and (5) supplementary leverage ratio.⁴⁵ A firm's regulatory capital ratios are calculated in accordance with the Board's regulatory capital rule using Federal Reserve projections of pre-tax net income and other scenario-dependent regulatory capital components.

As per the capital rule, the projected common equity tier 1 risk-based capital ratio is used to determine a firm's stress capital buffer requirement,⁴⁶ which aims to evaluate whether covered firms have the capital necessary to absorb losses as a result of adverse economic conditions.⁴⁷ Accordingly, this section focuses on the Board's calculation of a firm's projected

⁴¹ See 12 CFR 217.10(b)(1); *see also* 78 FR 62018.

⁴² See 12 CFR 217.10(b)(2); *see also* 78 FR 62018.

⁴³ See 12 CFR 217.10(b)(3); *see also* 78 FR 62018.

⁴⁴ See 12 CFR 217.10(b)(4); *see also* 78 FR 62018.

⁴⁵ See 12 CFR 217.10(c)(1); *see also* 78 FR 62018.

⁴⁶ See 12 CFR 217.11(a)(2)(vi) and 12 CFR 225.8(f).

⁴⁷ See 12 CFR Part 252.41(b); 90 FR 16843.

common equity tier 1 capital ratio for purposes of the stress capital buffer requirement (the Capital Model).

ii. Model Description

The Board calculates the change in regulatory capital over the projection horizon by combining projected after-tax net income with projected changes in other comprehensive income, and adjustments and deductions to common equity tier 1 capital. The Board calculates the path of regulatory capital over the projection horizon by combining the projected change in common equity tier 1 capital with the firm's starting capital position and accounting for other adjustments to regulatory capital specified in the Board's regulatory capital framework. The Board calculates the denominator of the common equity tier 1 ratio using standardized total risk-weighted assets, as defined in the capital rule,⁴⁸ for each quarter of the projection horizon.

The Capital Model projection of common equity tier 1 capital uses a set of formulas consistent with stress test rule,⁴⁹ the capital rule,⁵⁰ and the FR Y-9C reporting instructions, where indicated. The Board has designed the Capital Model to follow these rules and reporting standards as closely as possible. As a result, the common equity tier 1 formulas within the Capital Model mimic the FR Y-9C, Schedule HC-R (Regulatory Capital) structure and contents. The Board's general approach is to (1) source starting values of regulatory capital items from the

⁴⁸ The capital rule defines standardized total risk-weighted assets as (1) the sum of (i) total risk-weighted assets for general credit risk as calculated under 12 CFR 217.31; (ii) total risk-weighted assets for cleared transactions and default fund contributions as calculated under 12 CFR 217.35; (iii) total risk-weighted assets for unsettled transactions as calculated under 12 CFR 217.38; (iv) total risk-weighted assets for securitization exposures as calculated under 12 CFR 217.42; (v) total risk-weighted assets for equity exposures as calculated under 12 CFR 217.52 and 217.53; and (vi) for a market risk Board-regulated institution only, standardized market risk-weighted assets; minus (2) any amount of the Board-regulated institution's allowance for loan and lease losses or adjusted allowance for credit losses, as applicable, that is not included in tier 2 capital and any amount of "allocated transfer risk reserves." See 12 CFR 217.2, Standardized total risk-weighted assets; *see also* 78 FR 62018.

⁴⁹ See 12 CFR 252.

⁵⁰ See 12 CFR 217.

FR Y-9C and FR Y-14Q; (2) use supervisory stress test projections and methodologies, wherever available, for quarters throughout the projection horizon; and (3) incorporate firm-planned capital actions throughout the projection horizon as required by the stress test rule.⁵¹

The Capital Model contains three main components, which reflect the FR Y-9C, Schedule HC-R (Regulatory Capital) calculation of regulatory capital: (1) common equity before regulatory adjustments and deductions; (2) common equity regulatory adjustments and deductions; and (3) risk-weighted assets.⁵² The first two items adjust a firm's common equity capital as defined under U.S. GAAP to arrive at a projection of common equity tier 1 capital under the capital rule. This amount is then divided by supervisory projections of each firm's risk-weighted assets under the standardized approach to produce each firm's forecasted common equity tier 1 capital ratio. The Board calculates the common equity tier 1 capital ratio for each firm i in each quarter t over the projection horizon:

Equation D1 – Common Equity Tier 1 Capital Ratio

$$\text{Common equity tier 1 capital ratio}(t,i) = [\text{common equity tier 1 capital before adjustments and deductions}(t,i) - \text{common equity tier 1 capital adjustments and deductions}(t,i)] / \text{Standardized risk-weighted assets}(t,i)$$

The sections below provide additional detail and descriptions of each of these components and their subcomponents.

iii. Model Components

Consistent with the capital rule⁵³ and FR Y-9C Schedule HC-R, Part I (Regulatory Capital Components and Ratios), the Board decomposes common equity tier 1 capital into three

⁵¹ See 12 CFR 252.44(c); see also 86 FR 7927.

⁵² As per the FR Y-9C instructions, this schedule should be read in conjunction with the capital rule. See 12 CFR Part 217; 78 FR 62018.

⁵³ See 12 CFR Part 217.20.

main subcomponents: Common Equity Tier 1 Capital Before Adjustments and Deductions, Common Equity Tier 1 Capital Adjustments and Deductions, and Threshold Adjustments and Deductions to Common Equity Tier 1 Capital.

a. Common Equity Tier 1 Capital Before Adjustments and Deductions

The Board first projects common equity tier 1 capital before adjustments and deductions for each firm i , in each quarter t of the projection horizon. Consistent with the capital rule and the FR Y-9C Schedule HC-R, Part I, Line 5 (Common equity tier 1 capital before adjustments and deductions),⁵⁴ the Capital Model calculates common equity tier 1 capital before adjustments and deductions as the sum of common stock plus related surplus,⁵⁵ retained earnings,⁵⁶ accumulated other comprehensive income (for applicable firms),⁵⁷ and minority interest includable in common equity tier 1 capital.⁵⁸ The Capital Model formula for common equity tier 1 capital before adjustments and deductions is thus expressed for each firm i in quarter t as:

Equation D2 – Common Equity Tier 1 Capital Before Adjustments and Deductions

$$\text{Common equity tier 1 capital before adjustments and deductions}(t,i) = \text{common stock plus related surplus}(t,i) + \text{retained earnings}(t,i) + \text{accumulated other comprehensive income}(t,i) + \text{common equity tier 1 minority interest includable in common equity tier 1 capital}(t,i)$$

For all four items, the Board takes the value as of the effective date of the stress test exercise from the FR Y-9C.

⁵⁴ Board of Governors of the Federal Reserve System, 2025. *Instructions for Preparation of Consolidated Financial Statements for Holding Companies Reporting Form FR Y-9C, Schedule HC-R, Part I*, <https://www.federalreserve.gov/apps/reportingforms/Download/DownloadAttachment?guid=d036ea09-75d3-4f2f-8fe3-0f43c76d2f70>

⁵⁵ See FR Y-9C, Schedule HC-R, Part I Line Item 1.

⁵⁶ See FR Y-9C, Schedule HC-R, Part I Line Item 2.

⁵⁷ See FR Y-9C, Schedule HC-R, Part I Line Item 3.

⁵⁸ See FR Y-9C, Schedule HC-R, Part I Line Item 4.

To project retained earnings and accumulated other comprehensive income from Equation D2, the Board adjusts the reported FR Y-9C value as of the effective date of the stress test exercise to reflect projected available supervisory stress revenue and loss model outputs for each firm i in each quarter t . For details on the formulas and assumptions the Board uses to project retained earnings, see Section C.

In the stress test scenario, increasing (decreasing) interest rate environments lead to unrealized other comprehensive income (OCI) losses (gains) in available-for-sale debt securities. As a result, for firms that include accumulated other comprehensive income in common equity tier 1 capital⁵⁹ the Capital Model sources supervisory projections of stressed, pre-tax unrealized gains (losses) on available-for-sale securities for each firm i , in each quarter t of the projection horizon from the Securities Model (see Section A in the Market Risk Models Documentation).⁶⁰ The Capital Model then calculates the quarterly change in post-tax value for inclusion in common equity tier 1 capital. For all projection quarters, accumulated other comprehensive income thus equals the previous quarter's accumulated other comprehensive income plus the quarterly change in unrealized gains (losses) on available-for-sale securities multiplied by $(1 -$

⁵⁹ The regulatory capital rule requires Category I and II firms to reflect accumulated other comprehensive income within common equity tier 1 capital. Firms that are not Category I or II firms may make a one-time, permanent election to not reflect any component of accumulated other comprehensive income (with the exception of accumulated net gains and losses on cash flow hedges related to items that are not fair-valued on the balance sheet) in common equity tier 1 capital. See 12 CFR 217.20(b)(3); 12 CFR 217.22(b)(2); *see also* 78 FR 62018, 62058 *et seq.*

⁶⁰ For a more detailed description of the projections within the Securities Model, *see* Market Risk Models Documentation, Section A.

the supervisory tax rate).⁶¹ The supervisory tax rate is the same as the tax rate used in the tax expense equation of the Retained Earnings Model.⁶²

Firms that include accumulated other comprehensive income (AOCI) in common equity tier 1 capital must also reflect accumulated net gains and add (subtract) any accumulated net losses (gains) on cash flow hedges included in AOCI that relate to the hedging of items that are not recognized at fair value on the balance sheet.⁶³ Due to data availability constraints, the Securities Model does not project this item under stress (see Section A in the Market Risk Models Documentation). As a result, the Board assumes that this item does not impact common equity tier 1 capital under stress and holds firm values of this item equal to values as of the effective date of the stress test exercise.

For firms that exclude AOCI from regulatory capital, the Capital Model assigns a value of zero to other comprehensive income for each firm i in each quarter t of the projection horizon. In this manner, the Board holds constant the values for AOCI as reported on the FR Y-9C Schedule HC-R (Regulatory Capital)⁶⁴ as of the effective date of the stress test exercise. As a result, consistent with these firms' decision to exclude accumulated other comprehensive income from regulatory capital, other comprehensive income does not impact common equity tier 1 capital for these firms in any quarter of the projection horizon.

⁶¹ For simplicity and consistency, the Board assumes a uniform statutory corporate tax rate of 21 percent under a single U.S. federal tax jurisdiction. Setting all firms' tax rate to 21 percent implicitly assumes no tax exclusions, deductions, or additional local taxes, and assumes that the effective rate is similar to the legally-defined corporate tax rate of 21 percent.

⁶² For details on tax rate methods and assumptions, see the Unitary Tax Assumption subsection of the Retained Earnings Model, Section C.iv.b.

⁶³ See 12 CFR 217.22(b)(1)(ii).

⁶⁴ See FR Y-9C Schedule HC-R, Line Items 9.a–9.f.

For common stock plus related surplus and minority interest includable in common equity tier 1 capital, the Board holds constant over the projection horizon the values reported on the FR Y-9C as of the effective date of the stress test exercise. The Board finds this approach appropriate for the following reasons. First, stress test capital action assumptions dictate that covered firms will not (1) pay any dividends on any instruments that qualify as common equity tier 1 capital, (2) redeem or repurchase any capital instrument that is eligible for inclusion in the numerator of a regulatory capital ratio, or (3) issue common or preferred stock.⁶⁵ Second, firm business decisions and strategy generally drive changes to both items, which makes them difficult to model across firms independently and consistently. Third, although firm-provided projections of each item are available on the FR Y-14A, Schedule A (Summary) schedule, any use of firm-provided projections carries the disadvantage that Category IV firms generally do not submit this schedule. As a result, use of such data would produce inconsistent projections across firms. Holding projection values constant with the value reported for the effective date of the stress test exercise is thus the most consistent and comparable approach.⁶⁶ This approach also aligns with the principle of simplicity articulated in the Board's Stress Testing Policy Statement.

b. Common Equity Tier 1 Capital Adjustments and Deductions

Under the capital rule, firms must deduct the following items from common equity tier 1 capital before making further adjustments and deductions:⁶⁷ goodwill,⁶⁸ intangible assets,⁶⁹

⁶⁵ See 12 CFR 252.44(c); see also 86 FR 7927.

⁶⁶ See 12 CFR 252, Appendix B; see also 84 FR 6668; 85 FR 15576; 86 FR 7927.

⁶⁷ See 12 CFR 217.22; FR Y-9C, Schedule HC-R, Part I; see also 78 FR 62055.

⁶⁸ See FR Y-9C, Schedule HC-R, Part I, Line Item 6.

⁶⁹ See FR Y-9C, Schedule HC-R, Part I, Line Item 7.

deferred tax assets that arise from net operating loss and tax credit carryforwards,⁷⁰ accumulated other comprehensive income-related adjustments,⁷¹ other deductions from (additions to) common equity tier 1 capital⁷² and non-significant investments in the capital of unconsolidated financial institutions in the form of common stock that exceed the 10 percent threshold for non-significant investments.⁷³ Consistent with the capital rule, the Capital Model deducts these items from the supervisory projection of common equity tier 1 capital before adjustments and deductions, as defined in Section D.iii.a and Equation D2 above,⁷⁴ for each firm i in each quarter t of the projection horizon.

As part of covered firms' tax expenses and benefits, the Board seeks to simulate deferred tax assets from net operating losses. For all firms, the Capital Model sources starting deferred tax assets that arise from net operating loss and tax credit carryforwards directly from the FR Y-9C, as of the effective date of the stress test exercise, and projection values from the Retained Earnings Model, as described in Section C.

For firms not subject to the Global Market Shock, the Capital Model sources values for goodwill, intangible assets, accumulated other comprehensive income-related adjustments,⁷⁵ non-significant investments in the capital of unconsolidated financial institutions in the form of common stock, and other deductions from (additions to) common equity tier 1 capital⁷⁶ directly

⁷⁰ See FR Y-9C, Schedule HC-R, Part I, Line Item 8.

⁷¹ As defined in FR Y-9C, Schedule HC-R, Part I, Line Items 9.a–9.e for AOCI opt-out firms, and Line Item 9f for firms that include AOCI in capital.

⁷² See FR Y-9C, Schedule HC-R, Part I Line Item 10.

⁷³ See 12 CFR 217.22(c)(5); see also 78 FR 62018, 62066. The non-significant investment adjustment only applies to Category I and II firms.

⁷⁴ See FR Y-9C, Schedule HC-R, Part I Line Item 5.

⁷⁵ As defined in FR Y-9C, Schedule HC-R, Part I, Line Item 9.

⁷⁶ See FR Y-9C, Schedule HC-R, Part I, Line Item 10.

from the FR Y-9C as of the effective date of the stress test exercise for each firm i , and holds this value constant for all projection quarters t , without adjustment. This projection approach reflects that the Board does not incorporate changes to a firm's business plan⁷⁷ and the Board's assumption that a firm's standardized risk-weighted assets remain unchanged over the planning horizon⁷⁸ in the supervisory stress test.

For firms subject to the Global Market Shock, the Capital Model applies the same data sourcing and projection approach for intangible assets and accumulated other comprehensive income-related adjustments as it does for firms not subject to the Global Market Shock. Similarly, for goodwill, other deductions from (additions to) common equity tier 1 capital, and non-significant investments in the capital of unconsolidated financial institutions in the form of common stock,⁷⁹ the Capital Model applies the same data sourcing approach for firms subject to the Global Market Shock as it does for firms not subject to the Global Market Shock. However, the projection approach for these items differs. Specifically, for each firm i subject to the Global Market Shock in each projection quarter t , the value of each item is set equal to the FR Y-14A firm-reported Global Market Shock-impacted value.⁸⁰ The adjustment to these items reflects the fact that the adverse impact of the Global Market Shock is already captured on the relevant portfolios by stress loss projections. The adjustment thus prevents the capital calculation from reducing capital for losses that have already been recognized in net income, providing consistency between stress loss projections and stress capital deductions.

⁷⁷ See 12 CFR 252.44(a)(3); *see also* 86 FR 7927.

⁷⁸ See 12 CFR Part 252, Appendix B, part 3.4; *see also* 84 FR 6668; 85 FR 15576; 86 FR 7927.

⁷⁹ See 12 CFR 217.22(c)(5); *see also* 78 FR 62018, 62066. The non-significant investment adjustment only applies to Category I and Category II firms.

⁸⁰ Deduction item values inclusive of Global Market Shock impacts are reported on the FR Y-14A Summary Schedule by Category I–III firms.

The following equation defines the Global Market Shock adjustment that applies to supervisory projections of goodwill, other deductions from (additions to) common equity tier 1 capital, and non-significant investments in the capital of unconsolidated financial institutions in the form of common stock. The Global Market Shock adjustment can be expressed as:

Equation D3 – Global Market Shock Adjustment

$$\text{Deduction item } (t,i) = \text{Deduction item } (t=0,i) - [(\text{Deduction item } (t=0,i) - \text{Deduction item inclusive of Global Market Shock impacts reported in the FRY-14A}(t=0,i))]$$

To determine whether a firm’s non-significant investments in the capital of unconsolidated financial institutions in the form of common stock exceeds the 10 percent threshold for non-significant investments, the Capital Model sources values for non-significant investments in the capital of unconsolidated financial institutions in the form of common stock⁸¹ directly from the FR Y-14Q as of the effective date of the stress test exercise. It also sources values for aggregate non-significant investments in the capital of unconsolidated financial institutions—which includes investments in the form of common stock, additional tier 1 capital, and tier 2 capital—from the FR Y-14Q as of the effective date of the stress test exercise. As mentioned above, for firms subject to the Global Market Shock, the Capital Model applies the shock adjustment to both non-significant investment item values before calculating deductions.

The capital rule defines the deduction threshold for non-significant investments as 10 percent of common equity tier 1 capital as defined in equation (2) after adjustments for goodwill, intangible assets, deferred tax assets that arise from net operating loss and tax credit

⁸¹ See 12 CFR 217.22(c)(5); see also 78 FR 62018, 62066. The non-significant investment adjustment only applies to Category I and Category II firms.

carryforwards, accumulated other comprehensive income-related adjustments and other deductions from (additions to) common equity tier 1 capital.

Equation D4 – Common Equity Tier 1 Deduction Threshold for Non-Significant Investments

Common Equity Tier 1 Deduction Threshold for Non-Significant Investments = Common equity tier 1 capital before adjustments and deductions(t,i) – goodwill(t,i) – intangible assets(t,i) – deferred tax assets that arise from net operating loss and tax credit carryforwards (t,i) – accumulated other comprehensive income-related adjustments(t,i) – other deductions from (additions to) common equity tier 1 capital(t,i)

Consistent with the capital rule,⁸² the Capital Model then calculates the required deduction by first determining the aggregate non-significant investments in the capital of unconsolidated financial institutions that exceed the 10 percent deduction threshold; and then multiplies this value by the ratio of non-significant investments in the capital of unconsolidated financial institutions in the form of common stock to aggregate non-significant investments in the capital of unconsolidated financial institutions.⁸³ In keeping with the capital rule, the Capital Model calculates the non-significant investment deduction for each firm i in each quarter t over the projection horizon as follows:

Equation D5 – Non-Significant Investment Deduction

*Non-significant investments deducted from common equity tier 1 capital = Non-significant investments in the capital of unconsolidated financial institutions in the form of common stock that exceed the deduction threshold * (Non-significant investments in the capital of unconsolidated financial institutions in the form of common stock, with GMS adjustments) / (Aggregate amount of non-significant investments in the capital of unconsolidated financial institutions, with GMS adjustments)*

where:

⁸² See 12 CFR 217.22(c)(5)(ii); see also 78 FR 62018.

⁸³ See 12 CFR 217.22(c)(5); see also 78 FR 62018; FR Y-9C instructions, [Federal Reserve Board - Reporting Forms](#).

Equation D6 – Non-Significant Investments in the Capital of Unconsolidated Financial

Institutions in the Form of Common Stock that Exceed the Deduction Threshold

Non-significant investments in the capital of unconsolidated financial institutions in the form of common stock that exceed the deduction threshold =

*Aggregate non-significant investments in the capital of unconsolidated financial institutions, with GMS adjustments – 10% * Common Equity Tier 1 threshold for non-significant investments*

Finally, the Capital Model calculates common equity tier 1 capital subtotal for each firm i in each projection quarter t :

Equation D7 – Common Equity Tier 1 Capital Subtotal

Common equity tier 1 capital subtotal (t,i) = Common equity tier 1 capital before adjustments and deductions(t,i) – goodwill(t,i) – intangible assets(t,i) – deferred tax assets that arise from net operating loss and tax credit carryforwards (t,i) – accumulated other comprehensive income-related adjustments(t,i) – other deductions from (additions to) common equity tier 1 capital(t,i) – non-significant investments that exceed the 10 percent deduction threshold(t,i)⁸⁴

The Capital Model uses the resulting common equity tier 1 capital subtotal values to calculate threshold values for the additional threshold adjustments and deductions, described below.

c. Threshold Adjustments and Deductions to Common Equity Tier 1 Capital

Under the capital rule,⁸⁵ Category I and II firms must deduct amounts of mortgage servicing assets (MSAs),⁸⁶ temporary difference deferred tax assets that the firm could not realize through net operating loss carrybacks (DTAs from temporary differences),⁸⁷ and significant investments in the capital of unconsolidated financial institutions in the form of common stock⁸⁸ (collectively, threshold items) that individually exceed 10 percent of the firm's common equity tier 1 capital subtotal as defined in Equation D7.⁸⁹ Category I and II firms must also deduct the aggregate amount of threshold items not deducted under the 10 percent threshold deduction but that nevertheless in aggregate exceed the firm's 15 percent common equity tier 1

⁸⁴ Under 12 CFR 217.22(c)(5), the deduction for non-significant investments that exceed the 10 percent threshold is relevant for Category I and II firms only. *See also* 78 FR 62018.

⁸⁵ *See* 12 CFR 217.22(d)(1)–(3); *see also* 78 FR 62018, 62069 *et seq.*

⁸⁶ *See* FR Y-9C, Schedule HC-R, Part I, Line Item 14(b).

⁸⁷ *See* FR Y-9C, Schedule HC-R, Part I, Line Item 15(b).

⁸⁸ *See* FR Y-9C, Schedule HC-R, Part I, Line Item 13(b). A significant investment in the capital of an unconsolidated financial institution is defined as an investment in the capital of an unconsolidated financial institution where a banking organization subject to Category I or II capital standards owns more than 10 percent of the issued and outstanding common stock of the unconsolidated financial institution.

⁸⁹ *See* 12 CFR 217.22(d)(2)(i); *see also* 78 FR 62018.

capital deduction threshold, net of any 10 percent threshold deductions, as defined in Equation D8.⁹⁰

Under the capital rule, Category III and IV firms must deduct MSA amounts, DTAs from temporary differences, and investments in the capital of unconsolidated financial institutions⁹¹ (collectively, threshold items) that individually exceed 25 percent of the firm's common equity tier 1 capital subtotal.⁹² Consistent with the capital rule, the Capital Model deducts amounts of threshold items above the threshold limits for each firm i in each quarter t of the projection horizon from a firm's common equity tier 1 capital subtotal as defined in Equation D6 above.

The Capital model thus defines required deductions to common equity tier 1 capital for Category I and II firms and Category III and IV firms, subject to the 10% or 25% deduction threshold, respectively, as:

Equation D8 – Deduction Required for 10% Deduction Threshold for Category I and II Firms

$$\text{Deduction required for 10\% deduction threshold}(t,i) = \text{Deduction item}(t,i) - 10\% \\ *(\text{Common equity tier 1 capital subtotal}(t,i))$$

Equation D9 – Deduction Required for 25% Deduction Threshold for Category III and IV Firms

$$\text{Deduction required for 25\% deduction threshold}(t,i) = \text{Deduction item}(t,i) - 25\% \\ *(\text{Common equity tier 1 capital subtotal}(t,i))$$

where:

- The Capital Model applies Equation D8 to significant investments in the capital of unconsolidated financial institutions in the form of common stock, mortgage servicing assets and deferred tax assets from temporary differences.

⁹⁰ See 12 CFR 217.22(d)(2)(ii). See also FR Y-9C, Schedule HC-R, Part I Line Item 11.

⁹¹ See 12 CFR 217.22(c)(4). For banking organizations that are not subject to Category I or II capital standards, the capital rule does not have distinct treatments for significant and non-significant investments in the capital of unconsolidated financial institutions. Rather, the regulatory capital treatment for an investment in the capital of unconsolidated financial institutions would be based on the type of instrument underlying the investment.

⁹² See 12 CFR 217.22(c)(4) and 12 CFR 217.22(d)(1); see also 78 FR 62018.

- The Capital Model applies Equation D9 to investments in the capital of unconsolidated financial institutions, mortgage servicing assets and deferred tax assets from temporary differences.

To determine whether a threshold item individually (or in aggregate, if applicable) must be removed from common equity tier 1 capital, the Capital Model sources the gross value of MSA amounts and of deductions due to insufficient additional tier 1 and tier 2 capital as of the effective date of the stress test exercise from the FR Y-9C. The Capital Model then holds these values constant for each firm i in each quarter t over the projection horizon, without adjustment. This projection approach provides the simplest way to reflect both the deduction mechanics outlined in the capital rule, as well as the stress test no business plan change⁹³ assumption and the assumption that a covered company's risk-weighted assets remain unchanged over the planning horizon, except for changes associated with the calculation of regulatory capital or changes to the Board's regulations in the calculation of risk-weighted assets (flat balance sheet assumption).⁹⁴

For Category I and II firms subject to the Global Market Shock, the Capital Model adjusts values of significant investments in the capital of unconsolidated financial institutions in the form of common stock as of the effective date, for all quarters t over the projection horizon to reflect the FR Y-14Q firm-reported value after accounting for the impact of the Global Market

⁹³ See 12 CFR 252.44(a)(3); see also 86 FR 7927.

⁹⁴ See 12 CFR Part 252, Appendix B, Section 3.4; see also 84 FR 6668, note 10; 85 FR 15576, 15605; 86 FR 7927, 7949. Under the Policy Statement, this assumption ensures that a firm cannot “shrink to health” and serves the Board’s goal of helping to assure that the firm remains sufficiently capitalized to accommodate credit demand in a severe downturn. This assumption also allows supervisors to evaluate the health of the banking sector since the supervisory stress test contemplates that each firm continues to lend during times of economic stress. In addition, by precluding the need to make assumptions regarding how underwriting standards might tighten or loosen across individual firms during times of economic stress, the Capital Model promotes consistency across firms, in accordance with the Policy Statement.

Shock in quarter $t=0$, as reported by the firms on the FR Y-14A and expressed in Equation D3.⁹⁵ For Category III or IV firms subject to the Global Market Shock, the Capital Model adjusts values of investments in the capital of unconsolidated financial institutions as of the effective date, for all quarters t over the projection horizon to reflect the FR Y-14Q firm-reported value after accounting for the impact of the Global Market Shock in quarter $t=0$, as reported by the firms on the FR Y-14A and expressed in Equation D3.⁹⁶ The Capital Model then holds shocked values of significant investments in the capital of unconsolidated financial institutions in the form of common stock and investments in the capital of unconsolidated financial institutions, flat for each firm i in each quarter t over the projection horizon. The Global Market Shock adjustment to these items reflects the fact that the adverse impact of the Global Market Shock on the relevant portfolios is already captured in stress loss projections. It also reflects the fact that the Global Market Shock only impacts losses in the first quarter of the projection horizon.

For Category I and II firms not subject to the Global Market Shock, the Capital Model holds the reported values for significant investments in the capital of unconsolidated financial institutions in the form of common stock as of the effective date of the stress test exercise constant for each firm i in each quarter t over the projection horizon, without adjustment. For Category III and IV firms not subject to the Global Market Shock, the Capital Model also holds the reported values for investments in the capital of unconsolidated financial institutions as of the effective date of the stress test exercise constant for each firm i in each quarter t over the projection horizon, without adjustment. Values for both significant investments in the capital of unconsolidated financial institutions in the form of common stock, and investments in the capital

⁹⁵ The adjustments are reported on the FR Y-14A by the firms.

⁹⁶ The adjustments are reported on the FR Y-14A by the firms.

of unconsolidated financial institutions, are sourced from the FR Y-14Q as of the effective date of the stress test exercise. This projection approach reflects the fact that these firms are not subject to the Global Market Shock, as well as the no business plan change⁹⁷ and flat balance sheet⁹⁸ assumptions in the stress test.

The capital rule requires firms to deduct DTAs arising from temporary differences net of related valuation allowances and net of deferred tax liabilities.⁹⁹ The Capital Model sources starting values of deferred tax assets from temporary differences, net of deferred tax liabilities, and values of deferred tax assets from temporary differences, net of deferred tax liabilities and valuation allowance, from the FR Y-14Q¹⁰⁰ as of the effective date of the stress test exercise. The Capital Model sources projection values for each firm i in each projection quarter t from the Retained Earnings Model projections of DTAs from temporary differences, as described in Section C.iii.e. The Capital Model then adjusts these quarterly projections for each firm using the valuation allowance, as calculated for each firm i in each quarter t in the Retained Earnings Model. Firms can also use deferred tax assets to reduce quarterly taxes payable set aside for a given year;¹⁰¹ to reflect this, the Capital Model reduces deferred tax assets from temporary differences by positive values of taxes payable. The Capital Model thus adjusts projections to reflect the fact that firms can use deferred tax assets to reduce tax withholdings even in a year where the firm experiences net operating losses overall. Finally, the capital rule permits firms to

⁹⁷ See 12 CFR 252.44(a)(3); see also 86 FR 7927.

⁹⁸ See 12 CFR 252, part 2.7, Appendix B; see also 84 FR 6668; 85 FR 15576; 86 FR 7927.

⁹⁹ See 12 CFR 217.22(d)(1)(ii) and (d)(2)(i)(A); see also 78 FR 62018.

¹⁰⁰ See FR Y-14Q, Schedule D.

¹⁰¹ Tax Cuts and Jobs Act of 2017, Public Law 115-97, 131 Stat. 2054 (2017).

net deferred tax liabilities against assets subject to deduction.¹⁰² In some cases, deferred tax liabilities may exceed deferred tax assets such that the firm is in a net deferred tax liability position as of the effective date of the stress test exercise. In these cases, a firm may report a negative net deferred tax asset starting value as of the effective date of the stress test, and the Capital Model holds this negative value flat for each firm i and adds it to the net number in each quarter t of the projection horizon. This recognizes a firm's actual netting of deferred tax liabilities without making additional assumptions regarding any changes to the deferred tax liability position during the projection horizon. The Capital Model then uses this final adjusted value for net deferred tax assets from temporary differences subject to threshold deduction.

Under the capital rule, Category I and II firms must also adjust common equity tier 1 capital for items that are not deducted as a result of the individual 10 percent common equity tier 1 capital deduction threshold, but that in aggregate exceed 17.65 percent of common equity tier 1 capital net of amounts deducted as a result of the 10 percent common equity tier 1 capital deduction threshold ("15 percent threshold deductions").¹⁰³

The Capital Model calculates gross projection values for fifteen-percent threshold deductions by aggregating individual projection values for significant investments in the capital of unconsolidated financial institutions in the form of common stock, mortgage servicing assets, and deferred tax assets from temporary differences for each Category I and II firm i in each projection quarter t of the projection horizon. This approach ensures that supervisory projections consistently reflect the flat balance sheet assumption and no business plan change assumptions, while at the same time incorporating Global Market Shock impacts to capital deduction items

¹⁰² See 12 CFR 217.22(e); *see also* 78 FR 62018.

¹⁰³ See 12 CFR 217.22(d)(2)(ii); *see also* 78 FR 62018.

where relevant. The Capital Model then removes already deducted amounts and compares the remainder with common equity tier 1 subtotal, using the following formula:

Equation D10 – 15% Threshold Deductions

$$\begin{aligned} &15 \text{ percent threshold deductions} = \\ &(\text{Sum of items subject to the 10\% deduction threshold}) - 17.65\% * (\text{Common equity tier} \\ &\quad \text{1 subtotal} - \text{Sum of deductions required for the 10\% deduction threshold}) \end{aligned}$$

where:

- *Sum of items subject to the 10% deduction threshold* represents the sum of a firm's total significant investments in the capital of unconsolidated financial institutions in the form of common stock, mortgage servicing assets and deferred tax assets from temporary differences
- *Common equity tier 1 subtotal* is calculated as defined in Equation D7
- *Sum of deductions required for the 10% deduction threshold* are defined as the sum of deductions as defined in Equation D8.

Table D1 summarizes the treatment of Capital Model regulatory capital deductions and their sources:

Table D1 – Treatment of Key Regulatory Capital Deductions and Adjustments

Item/Description	Treatment	Source
Additional tier 1 capital deductions	Held constant	FR Y-9C
All other deductions from (additions to) CET1 capital before threshold-based deductions	Held constant ¹	FR Y-9C
AOCI-related adjustments	Held constant	FR Y-9C
Deductions applied to CET1 capital due to insufficient amounts of additional tier 1 capital and tier 2 capital to cover deductions	Held constant	FR Y-9C
DTAs arising from temporary differences that could not be realized through NOL carrybacks, net of related valuation allowance and net of DTLs	Supervisory projections	FR Y-14Q, FR Y-14A
DTAs from NOLs and tax credit carryforwards, net of any related valuation allowances and net of DTLs	Supervisory projections	FR Y-14Q
Goodwill, net of associated DTLs	Held constant ¹	FR Y-9C
Intangible assets (other than goodwill and mortgage servicing assets), net of associated DTLs	Held constant	FR Y-9C
Mortgage servicing assets, net of associated DTLs	Held constant	FR Y-14Q
Non-significant investments in the capital of unconsolidated financial institutions in the form of common stock	Held constant ^{1, 2}	FR Y-14Q
Significant investments in the capital of unconsolidated financial institutions in the form of common stock	Held constant ^{1, 2}	FR Y-14Q
Tier 2 capital deductions	Held constant	FR Y-9C
Investments in the capital of unconsolidated financial institutions	Held constant ³	FR Y-14Q
Unrealized net gain (loss) related to changes in the fair value of liabilities that are due to changes in credit risk	Held constant	FR Y-9C
Income attributable to minority interest	Supervisory projections	FR Y-9C

¹ Certain items are adjusted to reflect the effect of the global market shock using data reported on the FR Y-14A.
² Item only applies to Category I-II firms.
³ Item only applies to Category III-IV firms.

d. Risk-Weighted Assets

Consistent with the Board’s enhanced prudential standards rule,¹⁰⁴ the stress test calculates total risk-weighted assets¹⁰⁵ for each firm i in each quarter t of the projection horizon

¹⁰⁴ The Board’s Regulation Y specifies that post-stress regulatory capital ratios must not use advanced approaches. See 12 CFR 225.8(d)(17); see also 85 FR 15576.

¹⁰⁵ For standardized risk-weighted assets, the capital rule requires a firm to calculate its risk-weighted asset amounts for its on- and off-balance sheet exposures and, for firms subject to market risk capital requirements, standardized market risk assets as determined under subpart F. Risk-weighted asset amounts generally are determined by assigning on-balance sheet assets to broad risk-weight categories according to the counterparty, or, if relevant, the guarantor or collateral. Similarly, risk-weighted asset amounts for off-balance sheet items are calculated using a two-step process: (1) Multiplying the amount of the off-balance sheet exposure by a credit conversion factor (CCF) to determine a credit equivalent amount, and (2) assigning the credit equivalent amount to a relevant risk-weight category. See 12 CFR part 217, subparts D and F; see also 78 FR 62018.

using standardized total risk-weighted assets as defined in the capital rule.¹⁰⁶ As a result, the Capital Model sources starting risk-weighted asset components as of the effective date of the stress test exercise using the amounts included within each firm's standardized total risk-weighted assets. Furthermore, consistent with the Board's Stress Testing Policy Statement,¹⁰⁷ the stress test assumes that in a hypothetical stress event, a firm takes actions to maintain its current level of assets, including its securities, trading assets, and loans. Although a firm's balance sheet may change in different ways in periods of stress, a constant balance sheet assumption simplifies the Board's stress testing framework, while dissuading firms from planning to reduce credit supply in a stress scenario.

Accordingly, the Capital Model generally assumes that a firm's risk-weighted assets remain unchanged over the projection horizon (flat balance sheet assumption), except for changes primarily related to deductions from regulatory capital or due to changes to the Board's regulations. To calculate standardized total risk-weighted assets,¹⁰⁸ the Capital Model sources values as of the effective date of the stress test exercise from the FR Y-9C¹⁰⁹ for each firm *i* and

¹⁰⁶ The capital rule defines standardized total risk-weighted assets as (1) the sum of (i) total risk-weighted assets for general credit risk as calculated under 12 CFR 217.31; (ii) total risk-weighted assets for cleared transactions and default fund contributions as calculated under 12 CFR 217.35; (iii) total risk-weighted assets for unsettled transactions as calculated under 12 CFR 217.38; (iv) total risk-weighted assets for securitization exposures as calculated under 12 CFR 217.42; (v) total risk-weighted assets for equity exposures as calculated under 12 CFR 217.52 and 217.53; and (vi) for a market risk Board-regulated institution only, standardized market risk-weighted assets; minus (2) Any amount of the Board-regulated institution's allowance for loan and lease losses or adjusted allowance for credit losses, as applicable, that is not included in tier 2 capital and any amount of "allocated transfer risk reserves." See 12 CFR 217.2, Standardized total risk-weighted assets; *see also* 78 FR 62018.

¹⁰⁷ 12 CFR 252, Appendix B, part 3.4; *see also* 84 FR 6668, note 10; 85 FR 15576, 15605; 86 FR 7927, 7949.

¹⁰⁸ Other on-balance sheet, non-loan asset exposures do not use this approach. The approach applied to these exposures is described below, in Section D.iii.d(1).

¹⁰⁹ The Capital Model sources certain risk-weighted asset values from the Balances model, which calculates starting values directly using exposure amounts and relevant risk weights as reported on the FR Y-9C. The Balances Model then aggregates items based on category as per the FR Y-9C instructions and form, and holds these values flat over the projection horizon. See Balances Model (Section A) for more information.

then multiplies the sourced values by the risk weight applicable to each balance sheet asset category, consistent with FR Y-9C, Schedule HC-R (Regulatory Capital).¹¹⁰ In accordance with the flat balance sheet assumption, the Capital Model generally holds these values constant over the projection horizon, except for common equity tier 1 threshold deduction items described in the *Common Equity Tier 1 Capital Adjustments and Deductions* section (see Section D.iii.b).

The Board's Stress Testing Policy Statement¹¹¹ also states that when projecting a firm's risk-weighted assets in the hypothetical stress event, the Board will account for the effect of changes associated with the calculation of regulatory capital. The Board does this by adjusting risk-weighted assets for the projections of items described in *Common Equity Tier 1 Capital Adjustments and Deductions and Threshold Adjustments and Deductions to Common Equity Tier 1 Capital*.¹¹² (See sections D.iii.b and D.iii.c.)

(1) Other On-Balance Sheet, Non-Loan Asset RWAs

To ensure that that risk-weighted assets calculations appropriately exclude amounts deducted from common equity tier 1 over the course of the projection horizon, the Capital Model adjusts the values for other on-balance sheet, non-loan asset exposures as of the effective date of the stress test exercise using the equation below.

Equation D11 – Other on Balance Sheet, Non-loan Asset Risk Weighted Assets

$$\text{Other on-balance sheet, non-loan asset risk-weighted assets}(t,i) = \text{Other on-balance sheet, non-loan risk-weighted assets before adjustments or deductions from capital}(t,i) + \text{Items subject to adjustment or deduction from capital}(t,i)$$

¹¹⁰ For additional information on the calculation and data sourcing for risk-weighted assets before deductions for excess allowance and allocated risk transfer reserve, see Balances Model in Section A.

¹¹¹ 12 CFR 252, Appendix B, part 3.4(b); see also 84 FR 6668, note 10; 85 FR 15576, 15605; 86 FR 7927, 7949.

¹¹² This includes RWAs from excess allowance.

Firms do not report disaggregated values of these exposures before adjustments or deductions from capital on the FR Y-9C. However, the Capital Model must project these items consistent with the corresponding post-stress common equity tier 1 capital component projections; it thus derives these values as of the effective date of the stress test exercise for each firm by subtracting values for risk-weighted items subject to adjustment and deductions from common equity tier 1 capital, from values of total other on-balance sheet, non-loan asset risk-weighted assets. The derived value of other on-balance sheet, non-loan risk-weighted assets is then held constant over the projection horizon for each firm i in each quarter t . The Capital Model projects this for all firms as:

Equation D12 – Other On-Balance Sheet, Non-loan Asset Risk Weighted Assets Before
Adjustments or Deductions from Capital

$$\text{Other On-Balance Sheet, Non-Loan Asset risk-weighted assets Before Adjustments or Deductions from Capital}(t,i) = \text{Other On-Balance Sheet, Non-Loan Asset RWAs}(t=0,i) - \text{Items Subject to Adjustment or Deduction from Capital}(t=0,i)$$

The common equity tier 1 threshold deduction items that impact risk-weighted assets are the same items discussed in *Threshold Adjustments and Deductions to Common Equity Tier 1 Capital* above. Consistent with the capital rule, the Capital Model includes any amounts not reflected within common equity tier 1 capital within a firm's risk-weighted assets by multiplying the derived value by the risk weight applicable to the exposure.

The Capital Model is generally consistent with the capital rule in that it applies (1) a 250 percent risk weight to DTAs from temporary differences, MSAs, and significant investments in the capital of unconsolidated financial institutions in the form of common stock;¹¹³ and (2) a

¹¹³ See footnote 29 to 12 CFR 217.22(d)(1)(i); 12 CFR 217.32(l)(4) and 217.52(b)(4), footnote 31 to 12 CFR 217.22(d)(2)(ii); see also 78 FR 62018.

100 percent risk weight to amounts of other capital deduction items included in *Threshold Adjustments and Deductions to Common Equity Tier 1 Capital* common equity tier 1 capital.¹¹⁴

Unlike the capital rule, the Capital Model applies a 300 percent risk weight to non-significant investments in the capital of unconsolidated financial institutions in the form of common stock that are not reflected in common equity tier 1 capital. Under the capital rule, the risk weight applicable to these exposures can vary, depending on the materiality of the firm's aggregate equity holdings relative to its total capital.¹¹⁵ As firms do not report average risk-weight for non-significant investment items on the FR Y-9C, the Board makes a simplifying assumption that assigns a 300 percent risk weight, a midpoint value given the range of options. This simple assumption is meant to minimize model complexity and data reporting burden and allows for a more straightforward interpretation of results drivers.¹¹⁶

For Category I and II firms, the Capital Model derives starting risk-weighted values for items subject to adjustment or deduction from common equity tier 1 capital, as:

¹¹⁴ See 12 CFR 217.22(d)(1)(ii), 12 CFR 217.32(l)(5) and 12 CFR 217.52(b)(3)(iii); see also 78 FR 62018.

¹¹⁵ See 12 CFR 217.52(b)(3), 12 CFR 217.52(b)(5) and 12 CFR 217.52(b)(6); see also 78 FR 62018. The capital rule only requires firms to apply a 300 or 400 percent risk weight to non-significant investments in the capital of unconsolidated financial institutions to the extent that the aggregate adjusted carrying value of the exposures does not exceed 10 percent of the firm's total capital.

¹¹⁶ See 12 CFR 252, Appendix B, part 1.4; see also 84 FR 6668; 85 FR 15576, 15605; 86 FR 7927, 7949.

Equation D13 – Starting Risk Weighted Values for Items Subject to Adjustment or Deduction from Capital for Category I and II Firms

$$\begin{aligned}
 \text{Items Subject to Adjustment or Deduction from Capital}(i,t=0) = & \\
 & (300\% \text{ Risk Weight}) * \\
 & [\text{Gross Non-Significant Investments}(i,t=0) - \text{Non-Significant Investments} \\
 & \quad \text{deduction}(i,t=0)] + \\
 & (250\% \text{ Risk Weight}) * \\
 & [\text{Gross Investments in the Capital of Unconsolidated Financial Institutions}(i,t=0) - \\
 & \quad \text{Investments in the Capital of Unconsolidated Financial Institutions, deducted from} \\
 & \quad \text{capital}(i,t=0)) + (\text{Gross MSAs}(i,t=0) - \text{MSAs, deducted from capital}(i,t=0)) + (\text{Gross} \\
 & \quad \text{DTAs from Timing}(i,t=0) - \text{DTAs from Timing, deducted from capital}(i,t=0) - \\
 & \quad \text{Additional Deduction Items, deducted from capital}(i,t=0)]
 \end{aligned}$$

For Category III and IV firms, the Capital Model derives starting risk-weighted values for items subject to adjustment or deduction from common equity tier 1 capital as:

Equation D14 – Starting Risk Weighted Values for Items Subject to Adjustment or Deduction from Capital for Category III and IV Firms

$$\begin{aligned}
 \text{Items Subject to Adjustment or Deduction from Capital}(i,t=0) = & \\
 & (100\% \text{ Risk Weight}) * [((\text{Gross Investments in the Capital of Unconsolidated Financial} \\
 & \quad \text{Institutions}(i,t=0) - \text{Investments in the Capital of Unconsolidated Financial Institutions,} \\
 & \quad \text{deducted from capital}(i,t=0)) \\
 & + (250\% \text{ Risk Weight}) * [(\text{Gross MSAs}(i,t=0) - \text{MSAs, deducted from capital}(i,t=0) + \\
 & \quad (\text{Gross DTAs from Timing}(i,t=0) - \text{DTAs from Timing, deducted from capital}(i,t=0)] \\
 & + (100\% \text{ Risk Weight}) * [(\text{DTAs from NOL}(i,t=0)]
 \end{aligned}$$

As previously discussed, the Capital Model sources starting values of items subject to adjustment or deduction from capital as of the effective date of the stress test exercise from the FR Y-9C and FR Y-14Q. The Capital Model then adjusts these values for each firm i over the course of the projection horizon by projected changes in items subject to adjustment or deduction from common equity tier 1 capital. These changes include: adjustments over the projection horizon to capital deductions from the Global Market Shock (see Section D.iii.b); and changes in

values of deferred tax assets from net operating losses (see Section C).¹¹⁷ As the adjustments or deductions to common equity tier 1 capital differ depending on a firm's category, the Capital Model similarly contains different methods for estimating risk-weighted assets for these exposures in each quarter t in the projection horizon for Category I and II firms and for Category III and IV firms.

For Category I and II firms, risk-weighted assets for items subject to adjustment or deduction from common equity tier 1 capital for each quarter t in the projection horizon are defined as follows:

Equation D15 – Risk Weighted Assets for Items Subject to Adjustment or Deduction from

Common Equity Tier 1 Capital for Category I and II Firms

$$\begin{aligned}
 & \text{Items Subject to Adjustment or Deduction from Capital}(i,t) = \\
 & (300\% \text{ Risk Weight}) * [\text{Gross Non-Significant Investments}(i,t) - \text{Non-Significant} \\
 & \quad \text{Investments deduction}(i,t)] \\
 & + (250\% \text{ Risk Weight}) * [(\text{Gross Investments in the Capital of Unconsolidated Financial} \\
 & \quad \text{Institutions}(i,t) - \text{Investments in the Capital of Unconsolidated Financial Institutions,} \\
 & \quad \text{deducted from capital}(i,t)) + (\text{Gross MSAs}(i,t) - \text{MSAs, deducted from capital}(i,t)) + \\
 & \quad (\text{Gross DTAs from Timing}(i,t) - \text{DTAs from Timing, deducted from capital}(i,t)) - \\
 & \quad \text{Additional Deduction Items, deducted from capital}(i,t))) \\
 & + (100\% \text{ Risk Weight}) [\text{Goodwill}(i,t-t=0) + \text{DTAs from NOL}(i,t-t=0) + \text{Other} \\
 & \quad \text{deductions from CET1}(i,t-t=0)]
 \end{aligned}$$

For Category III and IV firms, risk-weighted assets for items subject to adjustment or deduction from common equity tier 1 capital for each quarter t in the projection horizon are defined as follows:

¹¹⁷ For a full list of items subject to adjustment and deduction in capital and their calculation in risk-weighted assets, see Section D.iii.d(1).

Equation D16 – Risk Weighted Assets for Items Subject to Adjustment or Deduction from

Common Equity Tier 1 Capital for Category III and IV Firms

$$\begin{aligned} \text{Items Subject to Adjustment or Deduction from Capital}(i,t) = & \\ & (100\% \text{ Risk Weight}) * [((\text{Gross Investments in the Capital of Unconsolidated Financial} \\ & \text{Institutions}(i,t) - \text{Investments in the Capital of Unconsolidated Financial Institutions,} \\ & \text{deducted from capital}(i,t)) \\ & + (250\% \text{ Risk Weight}) * [(\text{Gross MSAs}(i,t) - \text{MSAs, deducted from capital}(i,t)) + (\text{Gross} \\ & \text{DTAs from Timing}(i,t) - \text{DTAs from Timing, deducted from capital}(i,t))] \\ & + (100\% \text{ Risk Weight}) * [(\text{DTAs from NOL}(i,t-t=0))] \end{aligned}$$

(2) Excess Allowance

Consistent with the capital rule, the Capital Model subtracts the amount of credit loss allowance that is not includable in tier 2 capital (excess allowance)¹¹⁸ from standardized total risk-weighted assets.¹¹⁹ The Capital Model calculates excess allowance for each firm i in each quarter t as:

Equation D17 – Excess Allowance

$$\text{Excess Allowance}(i,t) = \text{Credit Loss Allowance}(i,t) - \text{Allocated Transfer Risk Reserve included in ALLL}(i,t) - \text{Credit Loss Allowance includable in tier 2 capital}(i,t)$$

where

- *Credit Loss Allowance includable in tier 2 capital* (i,t) equals the minimum of [Credit Loss Allowance(i,t) minus Allocated Transfer Risk Reserve included in ALLL(i,t)], and 1.25 percent of risk-weighted assets for purposes of calculating the allowance for loan and lease losses threshold.¹²⁰ The Capital Model defines risk-weighted assets for purposes of calculating the allowance 1.25 percent threshold as risk-weighted assets before deductions for excess allowance of loan and lease losses and allocated risk transfer reserve plus items subject to adjustment and deduction in capital.

¹¹⁸ Tier 2 capital includes Allowance for Loan and Lease Losses equal to or less than 1.25 percent of risk-weighted assets. See 12 CFR 217.20(d)(3); see also 78 FR 62018.

¹¹⁹ See 12 CFR 217.2, Standardized total risk-weighted assets; see also 78 FR 62018.

¹²⁰ “RWAs for purposes of calculating the allowance for loan and lease losses 1.25 percent threshold,” FR Y-9C HC-R. II line 26.

Values as of the effective date of the stress test exercise for allocated transfer risk reserve included in allowance for loan and lease losses are sourced from the FR Y-9C¹²¹ and held constant over the projection horizon. The credit loss allowance projection values for each firm i in each quarter t of the projection horizon are provided by the output from the Provisions Model. For more detail on the Provisions Model methodology, please see Section B.

iv. Alternative Variable Sourcing for the Capital Model

Additional variable sourcing specifications were considered by the Board when issuing the proposed model changes for the 2026 stress test. Discussion of these alternatives continues to be available on the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests-2026.htm>.

¹²¹ See FR Y-9C, Schedule HI-B, Memo item.